

**TRANSPORTATION IMPACT ASSESSMENT FOR THE
WOODSPRING SUITES DEVELOPMENT
AP 323, Lot 8
WARWICK, RHODE ISLAND**

SUBMITTED TO:
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SUBMITTED BY:
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8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865



OCTOBER 2021



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INTRODUCTION

Pare Corporation (Pare) has conducted a Transportation Impact Assessment (TIA) to determine the anticipated impacts to the surrounding roadway network associated with the proposed construction of WoodSpring Suites, a hotel development to be located on AP323, Lot 8, 2245 Post Road in Warwick, Rhode Island. The development will be located south of the intersection of Post Road (US-1) and T.F. Green Airport Connector Off-Ramp. The proposed hotel development will consist of 4 stories containing 122 rooms.

The study includes an assessment of the existing conditions of the study area including an inventory of roadway and intersection geometrics, public transportation services, collection of peak period traffic counts, and an analysis of the crash history of the study area.

Additionally, future traffic conditions with and without the proposed development were projected and analyzed. The future (2026) conditions analyzed were projected five years from the existing (2021) conditions. Weekday morning and evening peak periods for Existing (2021), Future (2026) No-Build, and Future (2026) Build conditions were analyzed.

Finally, the study evaluates the results of the Future (2026) Build condition analysis to determine the impact of the proposed development on the adjacent transportation network and provides recommendations as necessary.

Project Description

The proposed development will consist of 122 rooms. The proposed site will be located on the west side of Post Road (US-1) just south of T.F. Green Airport Connector Off-Ramp at the site of a former Airport Valet Parking Lot. Access to/from the site will be provided with two full access driveways on Post Road (US-1). The proposed site will provide a total of 122 parking spaces (5 Handicap Accessible).

A locus map of the site is provided in Figure 1 while the project site plan is provided in Figure 2.





● = STUDY INTERSECTIONS



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 401-334-4100

PROJECT NO. 21175.00

DATE: OCTOBER 2021

Figure No. 1
Wood Spring Suites
Hotel Development
 Traffic Impact Assessment

WARWICK, RHODE ISLAND



General Notes:

1. THE SITE IS LOCATED ON THE CITY OF WARWICK, RHODE ISLAND ASSESSOR'S PLAT 323 LOT 6.
2. THE SITE IS APPROXIMATELY 2.44 ACRES AND IS ZONED GB.
3. THE OWNER OF AP 323 LOT 6 IS:
NEW ENGLAND INSTITUTE OF TECHNOLOGY
2000 POST RD
WARWICK, RI 02886
4. THIS SITE IS LOCATED IN FEMA FLOOD ZONE X. REFERENCE FEMA FLOOD INSURANCE RATE MAP 440330217H, MAP REVISED OCTOBER 2, 2015. (FLOOD PLAN DESCRIPTIONS SHOWN BELOW)
5. ZONE X (UNSHADED) - THIS SITE IS LOCATED IN FEMA FLOOD ZONE X. ZONE X ARE AREAS WHERE THERE IS MINIMAL FLOODING.
6. TOPOGRAPHY WAS OBTAINED FROM LIDAR MAPS. ELEVATIONS ARE APPROXIMATE AND REFERENCED TO THE NAVD 88 US FEET DATUM. PRIOR TO ANY DEVELOPMENT ON THE SITE, THE OWNER SHALL VERIFY ELEVATIONS USING FIELD SURVEY.
7. THIS BOUNDARY LINE SHOWN ON THIS PLAN DEPICTS A CLASS I SURVEY AS PERFORMED BY DIPRETE ENGINEERING ASSOCIATES, INC. THE PLAN ITSELF CONFORMS ONLY TO A CLASS III STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. THIS PLAN IS NOT TO BE CONSTRUED AS A CLASS I BOUNDARY PLAN AND IS NOT SUITABLE FOR RECORDING AS A CLASS I STANDARD.
8. THE SITE IS WITHIN A:
NATURAL HERITAGE AREAS (RIEM)
GREENWICH BAY SAMP (CRMC)
GROUNDWATER RESERVOR AREA (RIEM)
9. THE SITE IS TO BE SERVICED BY PUBLIC WATER AND PUBLIC SEWER.
10. THERE ARE NO WETLANDS OR WATERCOURSES WITHIN 200' OF PROPERTY LINE
11. BACKGROUND IMAGE FROM NEARMAP. DATE OF PHOTOGRAPHY: 03-21-2020.

Dimensional Regulations:

CURRENT ZONING:	GB - NON RESIDENTIAL USES
MINIMUM LOT AREA:	6,000 SF
MINIMUM FRONTAGE AND LOT WIDTH ON CORNER LOTS, THE REQUIRED FRONTAGE AND WIDTH SHALL BE NECESSARY ONLY TO MAINTAIN THE MINIMUM FRONTAGE REQUIREMENT:	60
MINIMUM FRONT AND CORNER SIDE YARD:	25
MINIMUM SIDE YARD:	15'
MINIMUM REAR YARD:	20'
ON CORNER LOTS, THE REAR SETBACK SHALL CONFORM TO THE SIDE SETBACK REQUIREMENTS:	
MINIMUM STRUCTURE HEIGHT:	40'
MINIMUM LANDSCAPED OPEN SPACE:	10%

Parking Regulations:

PARKING USE:	HOTEL
PARKING REQUIREMENT:	1 SPACE PER BEDROOM
BEDROOMS PROPOSED:	122
PARKING CALCULATION:	122 SPACES
REQUIRED PARKING SPACES:	122 SPACES (5 ADA)
PARKING SPACES PROVIDED:	122 SPACES (5 ADA)

Soil Information:

(REFERENCE: USDA NATURAL RESOURCES CONSERVATION SERVICE)

SOIL NAME	DESCRIPTION
Ur	URBAN LAND

Proposed Legend

NOT ALL ITEMS SHOWN WILL APPEAR ON PLANS

	BUILDING FOOTPRINT
	BUILDING OVERHANG
	BUILDING SETBACKS
	ASPHALT PAVEMENT
	SIDEWALK
	LANDSCAPE AREA
	PARKING COUNT
	TREE

Existing Legend

NOT ALL ITEMS SHOWN WILL APPEAR ON PLANS

	PROPERTY LINE
	ASSESSORS LINE
	MINOR CONTOUR LINE
	MAJOR CONTOUR LINE
	ZONING BOUNDARY
	HkC
	CaD
	SOIL LINE AND DESIGNATION
	CRMC SAMP LINE
	NATURAL HERITAGE AREA

FIGURE 2



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DESIGNED BY: D.R.N.
 CHECKED BY: D.R.N.
 DATE: 03/21/2020
 PROJECT: 2245 POST ROAD - HOTEL PERMITTING
 SHEET: 4 OF 4

Site Layout Plan
2245 Post Road - Hotel Permitting
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C:\diprete\projects\2020\001 post road 2245\siteplan\2245post001.dwg, Plotfile: 4/1/2021

EXISTING CONDITIONS

A field inventory of the existing conditions within the study area was conducted in September 2021. The study area is defined as the significant roadways and intersections in the vicinity of the proposed site that may be impacted by the traffic generated by the construction of the proposed development. The study area is described below and shown in Figure 1.

Post Road (US-1)

Post Road (US-1) is classified as a principal arterial and is owned and maintained by the Rhode Island Department of Transportation (RIDOT). It travels through the study area in a north/south direction and consists of four 12-foot-wide travel lanes with a 2-foot-wide shoulder on the east side of the road and 3-foot shoulder on the west side of the road. The posted speed limit on Post Road (US-1) at the site driveways is 35 mph. Approximately 120 feet north of the project site a bus stop is located on the southbound side of the road. Parking along both sides of Post Road (US-1) is restricted with “NO PARKING ANY TIME” signage.

Post Road (US-1) and Aviation Avenue

The intersection of Post Road (US-1) and Aviation Avenue forms a four-legged signalized intersection. Post Road (US-1) forms the north and south legs of the intersection, a privately owned road (Donald Avenue) forms the west leg of the intersection, and Aviation Avenue forms the east leg. Post Road (US-1) is classified as a principal arterial and is owned and maintained by the Rhode Island Department of Transportation (RIDOT). Aviation Avenue is classified as an urban collector and is owned and maintained by the Rhode Island Department of Transportation (RIDOT).

Post Road (US-1) northbound approach to the intersection consists of a thru lane, a shared thru/right lane and a dedicated left-turn lane. The southbound approach to the intersection consists of a thru lane, a shared thru /right lane and a dedicated left-turn lane. The eastbound approach to the intersection on the privately owned road Donald Avenue consists of a shared left/right/thru lane. The westbound approach to the intersection serves as a one-way entrance to the T.F. Green Airport.

The signal operates under three phases. Phase one serves the protected northbound left-turn and southbound left turn movements. Phase two is for the northbound and southbound movements and Phase 3 is for movements from Donald Avenue.

Post Road (US-1) and T.F. Green Airport Connector Off-Ramp

The intersection of Post Road (US-1) and T.F. Green Airport Connector Off-Ramp forms a three-legged signalized intersection. Post Road (US-1) forms the north and south legs of the intersection, and the T.F. Green Airport Connector On-Ramp forms the west leg of the intersection. The T.F. Green Connector Off-Ramp is classified as a principal arterial and is owned and maintained by the Rhode Island Department of Transportation (RIDOT).

The Post Road (US-1) northbound approach to the intersection consists of two thru lanes. The southbound approach to the intersection also consists of two thru lanes. The eastbound approach to the intersection, the T.F. Green Airport Connector Off-Ramp, consists of two left turn lanes and one right turn lane. There is a “No Turn on Red” sign on this approach.



Post Road (US-1) and T.F. Green Airport Connector On-Ramp

The intersection of Post Road (US-1) and T.F. Green Connector On-Ramp forms a three-legged signalized intersection. Post Road (US-1) forms the north and south legs of the intersection, and the T.F. Green Airport Connector On-Ramp forms the west leg of the intersection. The T.F. Green Airport Connector On-Ramp is classified as a principal arterial and is owned and maintained by the Rhode Island Department of Transportation (RIDOT).

The Post Road (US-1) northbound approach to the intersection consists of two thru lanes and a dedicated northbound left-turn lane. The southbound approach to the intersection consists of two thru lanes, and a channelized right lane that is controlled with a yield sign that provides access to the westbound movement on the T.F. Green Airport Connector.

The Airport Connector ramp intersections are controlled by RIDOT traffic signal no. 490. The signal at the intersections operates under three phases. Phase one serves the protected northbound left-turn movement to the on-ramp as well as a permissive southbound right turn movement after yielding. Northbound thru movements at both intersections are also allowed. Phase two serves the northbound and southbound thru movements concurrently. Southbound right-turns after yielding to the on-ramp are permissive during this phase. The third phase serves the northbound movements at the on-ramp intersection, all traffic movements from the Connector off-ramp, and the northbound left-turn movement to the on-ramp. Traffic signal plans and the most recent RIDOT traffic signal timing sheet is included in Appendix A.

In general, pavement conditions on Post Road (US-1) are fair. Much of the roadway appears to have been crack-sealed within the last few years.



Existing Traffic Volumes

Existing traffic volume data was collected through turning movement counts (TMCs) at the study intersections. TMCs were performed during the weekday morning (7:00 to 9:00 a.m.) and weekday afternoon (4:00 to 6:00 p.m.) peak periods. These time periods were selected as they represent the peak traffic time periods for the proposed development and typical peak periods for the adjacent roadway network. Traffic patterns within the study area are heavily influenced by work commuters.

The traffic counts used in this study were performed on Tuesday, September 21, 2021. Traffic data was adjusted 10% higher to account for the impact of the Covid-19 pandemic.

The Covid-19 factor developed for each peak period was applied to increase 2021 volumes to pre-pandemic “normal” levels. The existing (2021) traffic volumes, which have been “normalized” by the application of the Covid-19 factor, are shown in Figure 3. Complete traffic count data is included in Appendix B.

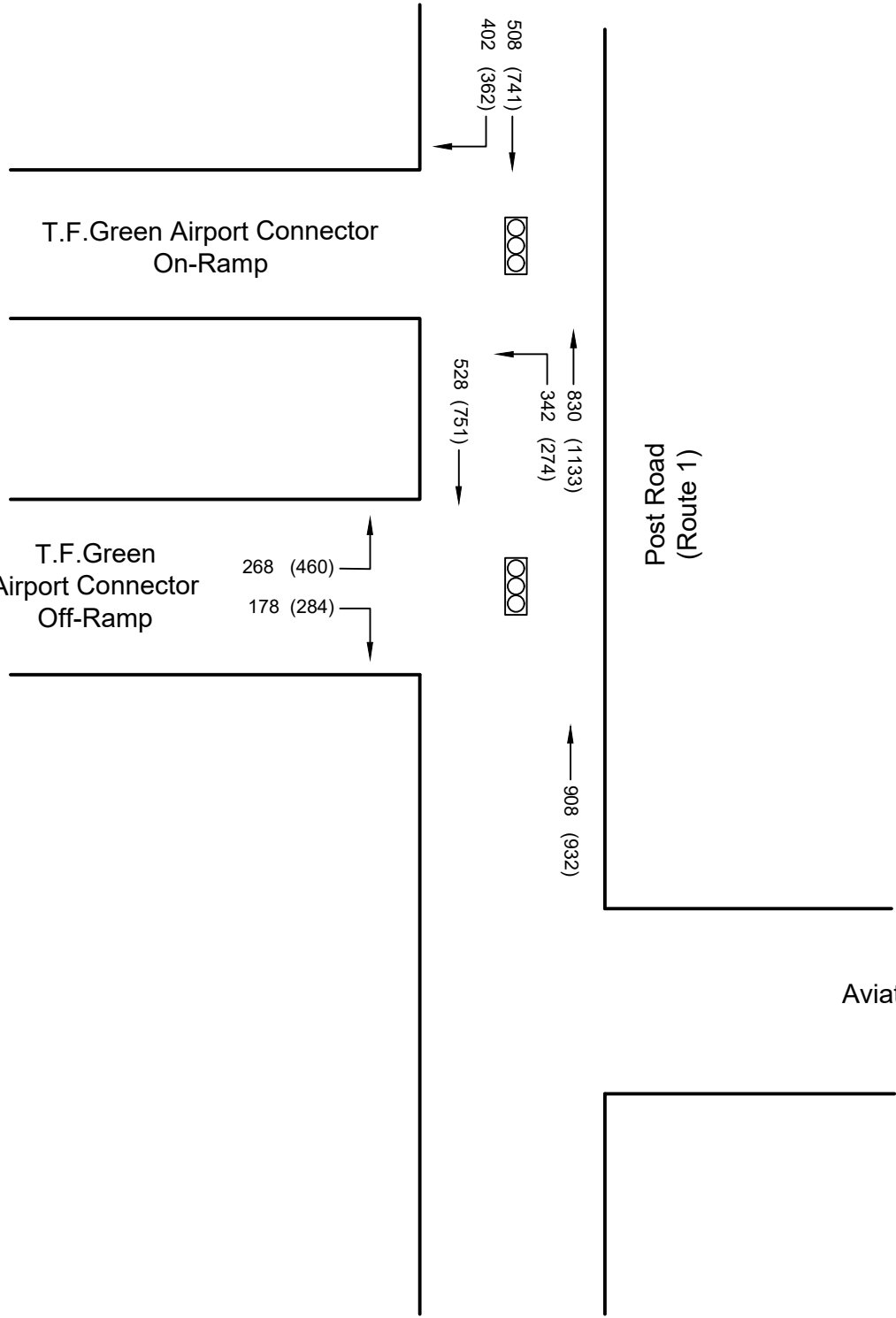
Public Transportation

The study area falls within the service area of the Rhode Island Public Transit Authority (RIPTA). RIPTA Bus Route 14 travels along Post Road (US-1) that could provide service to the proposed development. This RIPTA bus route also provides access to T.F. Green Airport via Post Road (US-1), the T.F. Green Train Station, and the New England Institute of Technology (NEIT).

Pedestrian & Bicycle Facilities

In general, pedestrian facilities within the study area are present as sidewalks exist along Post Road (US-1). No formal bicycle facilities are located within the study limits. According to RIDOT’s “A Guide to Cycling in the Ocean State, 2020”, Post Road (US-1) is classified as a “Other Road” which is described as a non-bike lane for bicycle travel.





AM Volumes (PM Volumes)



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Figure No. 3
**Wood Spring Suites
 Hotel Development**
 Existing (2021) Traffic Volumes

WARWICK, RHODE ISLAND

FUTURE CONDITIONS

Traffic volumes in the study area were projected to the year 2026 to cover a five-year horizon from the existing 2021 condition. Two future (2026) scenarios were analyzed including a Future (2026) No-Build scenario and Future (2026) Build scenario. Under the Future (2026) No-Build scenario, the traffic volumes include existing traffic volumes and new traffic volumes associated with expected background growth and other future development. The Future (2026) scenario includes all traffic volumes under the Future (2026) No-Build scenario and traffic associated with the proposed Project.

Future (2026) No-Build Traffic Volumes

The Future (2026) No-Build traffic volume scenario includes all existing traffic volumes and the traffic volumes associated with expected background growth. To provide a conservative analysis, the background growth in traffic volumes consists of a general background traffic growth rate consistent with recent traffic volume growth in the area surrounding the study area and any additional traffic projected from additional developments near the study area. This method allows for the inclusion of a general growth rate to account for any unforeseen increases in traffic volumes and accounts for specific known developments expecting to impact the transportation system adjacent to the Project.

General Background Traffic Growth

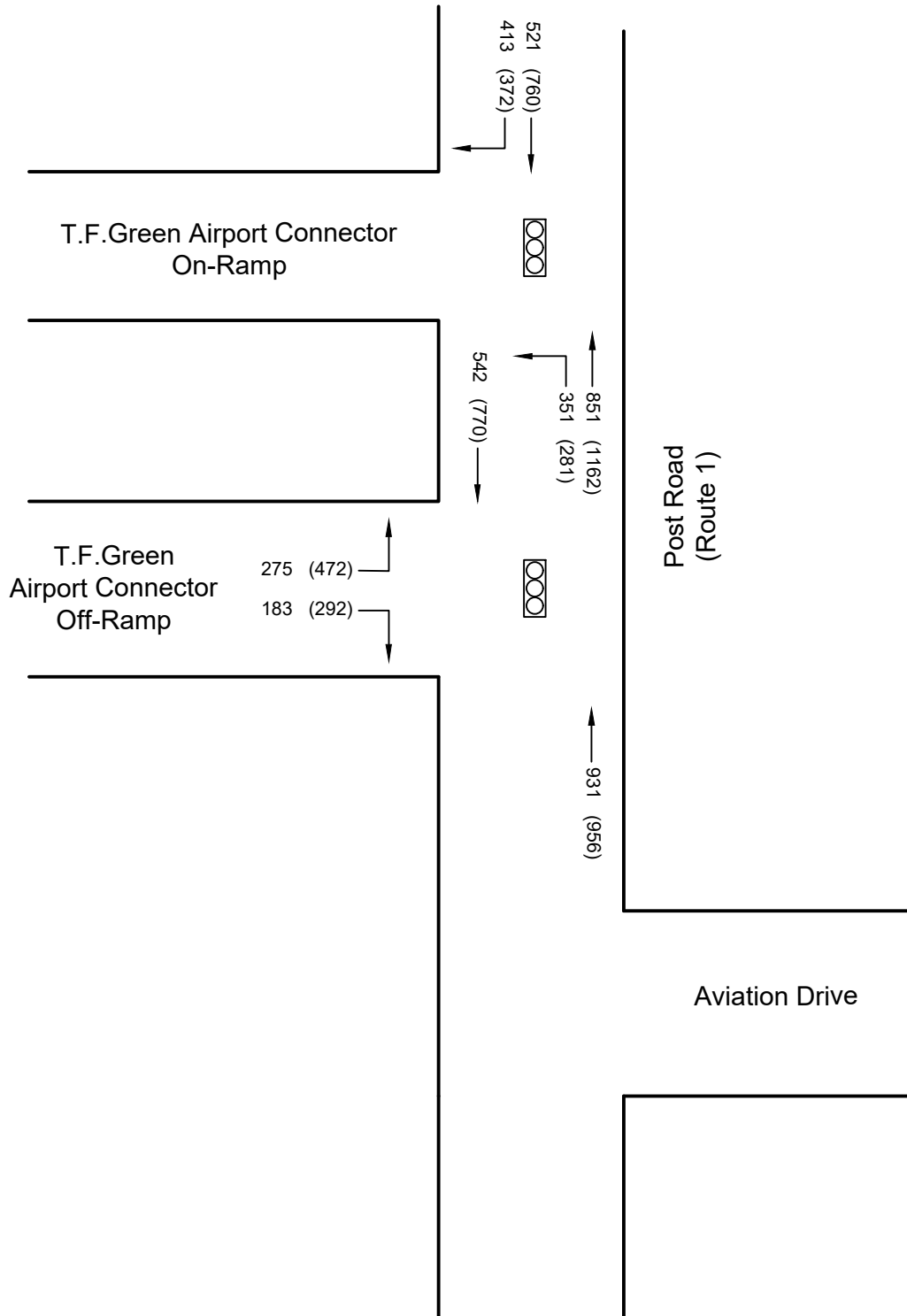
To determine the appropriate growth rate to apply to the transportation network within the study area, recent population census trends within the area were reviewed and correlated to expected background traffic growth. Population data in Warwick, RI was used to establish a background growth rate. The 2018, population estimates in Warwick, RI were 80,847, and in 2019, the population was 81,004, an average annual increase of .19% per year. To provide a conservative assessment, an annual growth rate of 0.5% was applied as a general background growth rate. General background growth data can be found in Appendix C.

In-Process Developments

Pare coordinated with the Town of Warwick, Rhode Island Airport Corporation, and RIDOT in September 2021 to determine if there were any other proposed developments in the area that may have an impact on future travel patterns or increase traffic volumes in the area. All three indicated that there were no known specific development proposals in the vicinity of the site at this time.

Based on the evaluation of the appropriate general background traffic growth and the assessment of future in-process developments, the Future (2026) No-Build scenario traffic volumes were determined. The Future (2026) No-Build scenario includes the existing traffic volumes with the addition of a 0.5% annual growth rate. The Future (2026) No-Build traffic volumes are shown in Figure 4.





AM Volumes (PM Volumes)



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Figure No. 4
Wood Spring Suites
Hotel Development
Future (2026) No-Build Volumes

WARWICK, RHODE ISLAND

Project Trip Generation

The Future (2026) Build scenario represents the Future (2026) No-Build condition plus the traffic expected to be generated by the Project.

Trip generation for the proposed development was completed using the industry standard Institute of Transportation Engineers (ITE) *Trip Generation, 10th Edition*¹. The proposed development was analyzed with Land Use Code (LUC) 310: Hotel and the trips are based on the number of rooms. Table 1 summarizes the trip generation for the 4-story 122-room development. Complete trip generation calculations are provided in Appendix D.

Table 1: Trip Generation Summary

Land Use		Weekday, AM Peak Hour	Weekday, PM Peak Hour
LUC 310 – Hotel (122 Rooms)	Entering	37	43
	Exiting	33	31
	Total	70	74

Project Trip Distribution

The directional distribution of trips entering and exiting the site was determined based on existing traffic volume distribution. Additionally, trips to and from the site were split between the northern and southern site driveways. A summary of the trip distribution through the transportation network is shown in Figure 5. **Future (2026) Build Traffic Volumes**

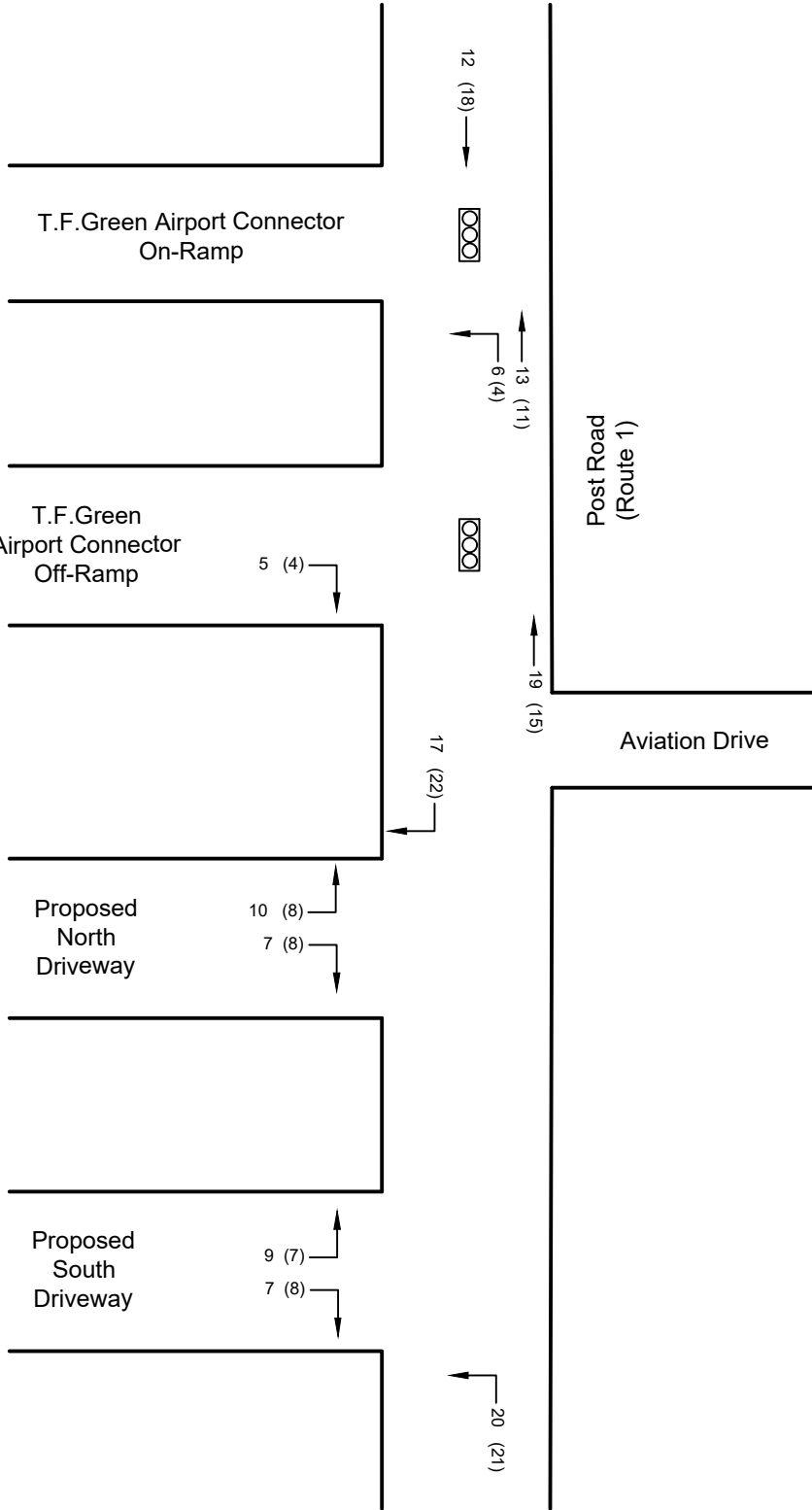
The Future (2026) Build traffic volumes consist of the Future (2026) No-Build traffic volumes with the addition of the Project generated traffic volumes. The Future (2026) Build weekday a.m. peak hour and weekday p.m. peak hour traffic volumes are shown in Figure 6. A summary comparing the difference between the Existing (2021) conditions, Future (2026) No-Build Conditions, and Future (2026) Build Conditions is located in Table 2.

Table 2: Analysis Scenario Summary

Analysis Scenario		
Existing (2021) Conditions	Future (2026) No-Build Conditions	Future (2026) Build Conditions
Existing traffic volumes – these volumes are the peak hour traffic volumes collected in the intersection turning movement counts with the appropriate Covid-19 adjustment factor applied.	Future traffic volumes without the proposed development – these volumes are the existing traffic volumes inflated with a 0.5% annual growth rate over 5 years. This represents the anticipated future conditions if the proposed development is not constructed	Future traffic volumes with the proposed development – these volumes include the volumes established under the Future (2026) No-Build Conditions plus the trips generated by the proposed development. This represents the anticipated future conditions if the proposed development is constructed

¹ Trip Generation, 10th Edition; Institute of Transportation Engineers; Washington, DC; 2017.





AM Volumes (PM Volumes)



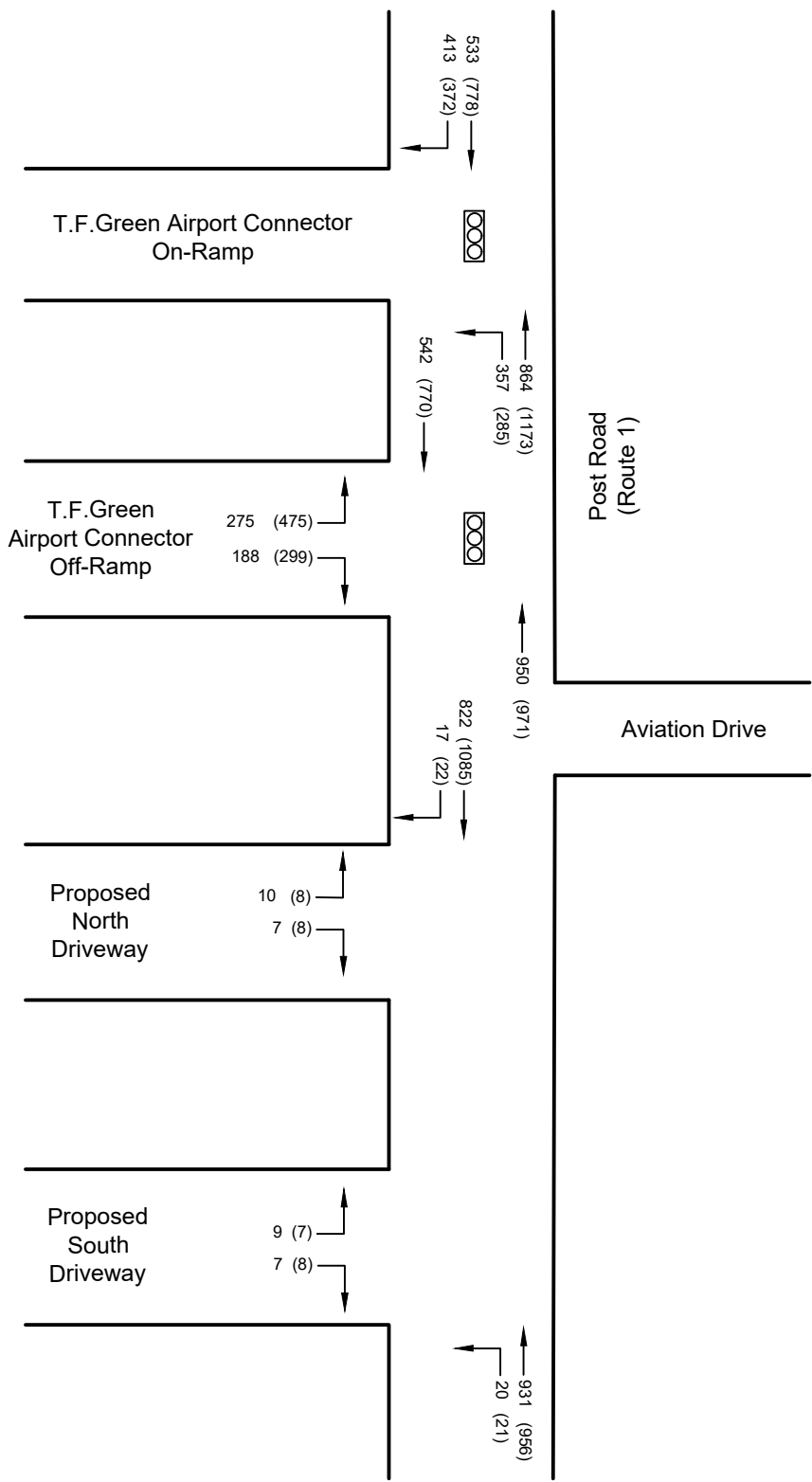
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Figure No. 5
Wood Spring Suites
Hotel Development
 Site Generated Traffic Volumes

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AM Volumes (PM Volumes)



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Figure No. 6
 Wood Spring Suites
 Hotel Development
 Future (2026) Build Volumes

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TRAFFIC CAPACITY ANALYSIS

Capacity analyses were completed for all the study intersections for Existing (2021), Future (2026) No-Build, and Future (2026) Build conditions. A capacity analysis characterizes intersections based on their level of service (LOS). LOS is a quality measure describing operational conditions within a traffic stream, generally in terms of service measures such as speed, travel times, traffic interruptions, etc. Six LOS are defined for each type of facility, from A to F, with A representing the best operating conditions and F representing the worst operating conditions. The LOS criteria, as defined by the 2010 Highway Capacity Manual² (HCM) for signalized and unsignalized intersections are provided in Table 3. Tables 4, 5 and 6 show the results of the capacity analysis. The complete capacity analysis results can be found in Appendix E.

Table 3: LOS Criteria for Signalized & Unsignalized Intersections

LOS	Signalized Intersections	Unsignalized Intersections
	Delay Time (sec/veh)	Delay Time (sec/veh)
A	0-10	0-10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

In general, the results of the capacity analysis indicate that the introduction of traffic associated with the proposed hotel development to the adjacent roadway network has minimal impact on the study area. Details are highlighted below.

Post Road (US-1) & T.F. Green Airport Connector On-Ramp

Under Existing (2021) conditions, the intersection of Post Road (US-1) and T.F. Green Airport Connector On-Ramp operates below capacity during the weekday a.m. peak hour and weekday p.m. peak hour. The overall intersection operates at LOS ‘A’ during the weekday a.m. peak hour and LOS ‘A’ during the weekday p.m. peak hour. Additionally, all approaches to the intersection operate at LOS ‘B’ or better during the both the weekday a.m. peak hour and weekday p.m. peak hour.

Under the Future (2026) No-Build condition, vehicle delay at the intersection slightly increases. The overall intersection LOS stays the same at LOS ‘A’ during the weekday a.m. peak hour and weekday p.m. peak hour. During the weekday a.m. peak hour, all approaches operate at LOS ‘B’ or better

Under the Future (2026) Build condition, operations at the intersection remain comparable to the Future (2026) No-Build condition. The overall intersection LOS remains at LOS ‘A’ during the weekday a.m. peak hour and weekday p.m. peak hour. Additionally, the LOS for each intersection movement remains the same as under the Future (2026) No-Build condition.

² *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.



Table 4: Intersection Capacity Analysis Results - Signalized Intersections (On-Ramp)

Intersection	Movement		2021 Existing		2026 No-Build		2026 Build	
			LOS	Delay ¹	LOS	Delay ¹	LOS	Delay ¹
Post Road (US-1) & T.F. Green Airport Connector On-Ramp	AM Peak Hour							
	NB	T	A	0.2	A	0.2	A	0.2
		L	B	15.2	B	16.1	B	16.6
	SB	T	B	15.6	B	15.8	B	15.9
		R	A	0.5	A	0.5	A	0.5
	Intersection		A	6.5	A	6.6	A	6.8
	PM Peak Hour							
	NB	T	A	0.2	A	0.2	A	0.2
		L	A	9.3	A	9.5	A	9.6
	SB	T	B	18.8	B	19.3	B	19.6
		R	A	0.4	A	0.4	A	0.4
Intersection		A	6.8	A	7.0	A	7.1	

- # The 95th percentile volume exceeds capacity; queue may be longer.
- 1. Delay is measured in seconds/vehicle.

Table 5: Intersection Capacity Analysis Results - Signalized Intersections (Off-Ramp)

Intersection	Movement		2021 Existing		2026 No-Build		2026 Build	
			LOS	Delay ¹	LOS	Delay ¹	LOS	Delay ¹
Post Road (US-1) & T.F. Green Airport Connector Off-Ramp	AM Peak Hour							
	NB	T	A	5.3	A	5.4	A	5.4
	SB	T	A	4.8	A	4.8	A	4.6
	EB	L	C	30.1	C	30.6	C	30.7
		R	B	11.9	B	12.0	B	12.1
	Intersection		A	9.5	A	9.6	A	9.5
	PM Peak Hour							
	NB	T	A	4.7	A	4.8	A	4.8
	SB	T	A	5.8	A	6.0	A	6.0
	EB	L	F	81.7	F	89.9	F	89.9
		R	B	13.5	B	13.7	B	13.8
Intersection		C	20.7	C	22.3	C	22.2	

- # The 95th percentile volume exceeds capacity; queue may be longer.
- 1. Delay is measured in seconds/vehicle.

Table 6: Intersection Capacity Analysis Results – Unsignalized Intersection (Driveway)

Intersection	Movement		2026 Build	
			LOS	Delay ¹
Post Road WoodSpring Suites Driveway	AM Peak Hour			
	NB	L	A	9.9
	EB	L,R	D	31.6
	PM Peak Hour			
	NB	L	B	11.3
		T	A	0.5
EB	L,R	E	41.4	

- # The 95th percentile volume exceeds capacity; queue may be longer.
- 1. Delay is measured in seconds/vehicle.

Post Road (US-1) & T.F. Green Airport Connector Off-Ramp

Under Existing (2021) conditions, the intersection of Post Road (US-1) and T.F. Green Airport Connector Off-Ramp operates below capacity during the weekday a.m. peak hour and weekday p.m. peak hour. The overall intersection operates at LOS ‘A’ during the weekday a.m. peak hour and LOS ‘C’ during the weekday p.m. peak hour. Additionally, with the exception of the eastbound left turn movement all approaches to the intersection operate at LOS ‘B’ or better during the both the weekday a.m. peak hour and weekday p.m. peak hour.



Under the Future (2026) No-Build condition, vehicle delay at the intersection slightly increases. The overall intersection LOS stays the same at LOS 'A' during the weekday a.m. peak hour and LOS 'C' during weekday p.m. peak hour. During the weekday a.m. peak hour, all approaches operate at LOS 'A' except the eastbound left turn approach the functions at a LOS 'C'. During the weekday p.m. peak hour, the eastbound left movement is expected to operate at LOS 'F' with an average vehicle delay of 89.9 seconds per vehicle.

Under the Future (2026) Build condition, operations at the intersection remain comparable to the Future (2026) No-Build condition. The overall intersection LOS remains at LOS 'C' during the weekday a.m. peak hour and weekday p.m. peak hour. Additionally, the LOS for each intersection movement remains the same as the Future (2026) No-Build condition. Vehicle delay at the eastbound left-turn movement stays the same under the Future (2026) No-Build condition.

Post Road (US-1) & WoodSpring Suites Driveway

In order to present a conservative analysis of the site driveway operation after construction, the two driveways were analyzed as a single driveway for this site. Under Future Build (2026) conditions, the intersection of Post Road (US-1) and WoodSpring Suites operates below capacity during the weekday a.m. peak hour and weekday p.m. peak hour. The northbound movement operates at LOS 'A' during the weekday a.m. peak hour and LOS 'B' during the weekday p.m. peak hour. Eastbound vehicles at the intersection operate at LOS 'D' during the weekday a.m. peak hour and LOS 'E' during the weekday p.m. peak hour. Queuing onsite will be minimal and there will be no significant impact on the Post Road traffic flow.



SAFETY ANALYSIS

Crash History

Vehicle crash data for the study area was obtained from the Warwick Police Department for the period of January 1, 2017, through January 1, 2020, a total of 3 years. Within this period, a total of 8 crashes were reported within the study area. One of these crashes resulted in injury and none resulted in a fatality. The crash data is summarized in Table 7 below.

Table 7: Crash Data Summary

Roadway/Intersection	Total Crashes	Crash Severity			Type of Crash			
		Property Damage Only	Non-Fatal Injury	Fatal Injury	Angle	Rear-End	Loss of Control	Object/Animal
Post Road at T.F. Green Airport Connector Road Off-Ramp	4	4	-	-	1	-	3	-
Post Road at T.F. Green Airport Connector Road On-Ramp	4	4	-	-	-	2	2	-

Notable trends of incidents identified in the crash data include the following:

- 1) The majority (five of the 8 crashes) that occurred within the study area were crashes due to loss of control at the signalized intersection of Post Road at T.F. Green Airport Connector Road Off-Ramp and Post Road at T.F. Green Airport Connector Road On-Ramp.
- 2) Two rear end collisions occurred on T.F. Green Airport Connector Road On-Ramp. Rear end crashes are common at signalized intersections given the stop-and-go nature of traffic at these locations and are typically of low severity.
- 3) All eight crashes involved property damage only. No injuries were reported at either of these intersections.

Sight Distance Analysis

Spot speed studies were performed on Post Road (US-1) in the vicinity of the proposed development driveways to determine travel speeds on the existing roadway. A radar gun collecting individual vehicle speeds was used for the spot speed study. The vehicle speed data collected is summarized below. Complete speed study results are provided in Appendix F.

Table 8: Post Road (US 1) Speed Study Results

Direction	Posted Speed Limit	Average Speed	Median Speed	85 Percentile Speed	10 mph Pace Speed	Percent Over 35 MPH
Northbound	35	41	40	46	37-46	98%
Southbound	35	39	38	43	35-44	90%

1. All speed data reported in miles per hour (mph).

2. Data was collected at 2245 Post Road between 11:45 a.m. – 12:45 p.m. on September 21, 2021.



Based on the spot speed study performed on Post Road (US-1), a design speed of 50 miles per hour was selected for Post Road (US-1), which is greater than the 85th percentile speed recorded on the roadway and above the 35 mile-per-hour posted speed limit. According to the American Association of State Highway and Transportation Officials (AASHTO), the minimum required stopping sight distance is 425 feet for a 50-mph design speed and the intersection sight distance for a 50 mile per hour design speed is 555 feet.

Intersection sight distance measurements were taken from each of the proposed driveway locations with direct access onto Post Road (US-1). From the proposed intersection of the southern site driveway with (US-1), the available intersection sight distance in each direction is over 555 feet. This exceeds the AASHTO requirement for the selected design speed and the posted speed limit.

From the northern site driveway, the intersection sight distance to the north is unimpeded to the intersection at T.F. Green Airport Connector Off-Ramp and exceeds AASHTO requirements.

Table 9: Sight Distance Summary

		Required SSD	Measured SSD	Required ISD	Measured ISD
		(ft)	(ft)	(ft)	(ft)
Existing Northern	To the North	425	>600	555	>600
Site Driveway	To the South	425	>1000	555	>1000
Proposed Southern	To the North	425	>600	555	>600
Site Driveway	To the South	425	>1000	555	>1000

SSD – Stopping Sight Distance

ISD – Intersection Sight Distance



CONCLUSIONS & RECOMMENDATIONS

After completing the analysis for the proposed WoodSpring Suites Hotel development, comparing Existing (2021) conditions, Future (2026) No-Build conditions, and Future (2026) Build conditions, the following can be concluded regarding the site's impact:

- The traffic analysis methodology included in the study provides a conservative assessment of the future traffic conditions along the roadway network in the vicinity of the proposed development.
- Sight distance requirements at the site's proposed driveways meet or exceed AASHTO requirements.
- The new trips anticipated to be generated by the proposed hotel development are expected to have minimal impact on the traffic operations and intersection capacity of the surrounding roadway network when comparing Future (2026) No-Build to Future (2026) Build conditions.
- Vehicle delay slightly increases at the intersection of Post Road (US-1) and T.F Green Airport Connector on-ramp and the T.F. Green Airport Connector off-ramp intersection, however overall levels of service do not change.
- There is enough capacity at the site driveways to handle the site's expected traffic without impacting traffic flow on Post Road.
- A Physical Alteration Permit with the Rhode Island Department of Transportation will be required for the development given the change in land use of the property and the proposed driveway intersections with the State-owned roadway of Post Road (US-1).



Appendix A

RIDOT Traffic Signal Plans



LOOP DETECTOR DATA TABLE

DETECTOR NO.	NO. SECTION/ SIZE	RELAY NUMBER	CHANNEL	DELAY (SEC)	CALL PHASE	EXTENSION (SEC)	REMARKS
1	1-8'x40'	1	1	1	ø2	-	EXIST.
2	1-8'x40'	1	2	1	ø2	-	EXIST.
3	1-8'x40'	1	3	1	ø2	-	EXIST.
4	1-8'x40'	1	4	1	ø2	-	EXIST.
5	1-8'x40'	2	3	2	ø1	-	EXIST.
6	1-8'x40'	2	4	1	ø2	-	EXIST.
7	1-8'x40'	3	1	1	ø2	-	EXIST.
8	1-6'x40'	3	2	5	ø3	-	REPLACE W/ NEW
9	1-6'x40'	3	3	1	ø3	-	REPLACE W/ NEW
10	1-6'x40'	3	4	1	ø3	-	REPLACE W/ NEW
11	2-6'x12'	4	1	1	ø3	-	REPLACE W/ NEW

PROPOSED PHASE AND TIMING DIAGRAM

APPROACH	DIRECTION	HOUSING	TIMING DIAGRAM			FLASHING OPERATION						
			ø1	ø2	ø3							
MINIMUM INTERVAL			6	10	6							
VEHICLE EXTENSION			2.8	2.2	2.2							
MAXIMUM 1			14	21	8							
MAXIMUM 2 COORDINATION PLAN 1												
MAXIMUM 3 COORDINATION PLAN 2												
YELLOW CHANGE			4	4	4							
RED CLEARANCE			1	2	2							
POST ROAD (US RT. 1)	SB	1,2,3,4	R	R	R	G	Y	R	R	R	R	FR
POST ROAD (US RT. 1)	NB LT	5	←	←	←	←	←	←	←	←	←	FR
POST ROAD (US RT. 1)	NB	6,7	G	Y	R	G	Y	R	G	Y	R	FR
POST ROAD (US RT. 1)	NB	8,9	G	Y	R	G	Y	R	R	R	R	FR
AIRPORT CONNECTOR OFF RAMP	EB RT	10	→	→	→	→	→	→	→	→	→	FR
AIRPORT CONNECTOR OFF RAMP	EB LT	11,12	←	←	←	←	←	←	←	←	←	FR
DETECTOR			NON-LOCK	NON-LOCK	NON-LOCK							
RECALL			OFF	MIN	OFF							

NOTES:
1. FLASHING OPERATION PER MUTCD
2. MAXIMUM 1: SHALL BE IN EFFECT DURING ALL TIMES EXCEPT AS NOTED BELOW.
3. MAXIMUM 2: M-F (7AM-9AM)
4. MAXIMUM 3: M-F (4PM-6PM)

PROPOSED COORDINATION DATA
(ALL ENTRIES IN SECONDS)

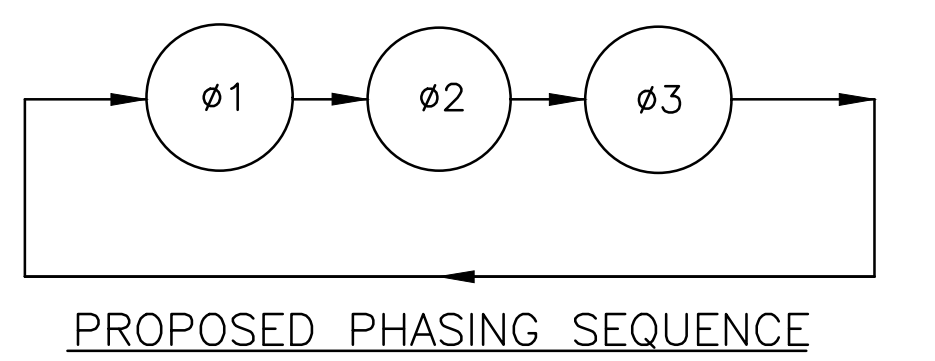
	PLAN 1	PLAN 2
CYCLE LENGTH	60	60
OFFSET	0	0
SPLIT PHASE 1	17	19
SPLIT PHASE 2	28	27
SPLIT PHASE 3	15	14
COORDINATED PHASE	ø2	ø2
PLAN 1: MONDAY-FRIDAY: 7AM-9AM		
PLAN 2: MONDAY-FRIDAY: 4PM-6PM		
FREE: ALL OTHER TIME PERIODS		

- NOTES:
1. PROVIDES SIGNAL COORDINATION WITH POST ROAD AT DONALD AVENUE/AIRPORT ENTRANCE USING GPS.
2. INSTALL A GPS UNIT IN THE SIGNAL CONTROLLER CABINET TO ACHIEVE TIME SYNCHRONIZATION OF THE CONTROLLER TIME CLOCKS.
3. ø2 "CALL NON ACTUATED" DURING COORDINATION.
4. OFFSET: START OF ø2 GREEN
5. PLAN FORCE OFF/ FLOATING FORCE OFF SHALL BE IN EFFECT.
6. SPLIT TIMES EQUAL GREEN TIME PLUS CLEARANCES.
7. INHIBIT MAX. TERMINATION SHALL BE IN EFFECT DURING COORDINATION.

SIGNAL HEAD DATA

	3,4,8-12	5	1,2,6,7
EXISTING			
(#10 TO BE REMOVED & SALVAGED)		(TO BE REMOVED & SALVAGED)	
ALL 12" LENS			
PROPOSED			
(SEE NOTE 3)			

- NOTES:
1. THE PROPOSED SIGNAL INDICATION SHALL BE 12"x12".
2. ADDITIONAL COSTS ASSOCIATED WITH HORIZONTAL MOUNTING OF THE SIGNAL HEAD ASSEMBLIES IS CONSIDERED INCIDENTAL TO THE PAY ITEMS.
3. A BACKPLATE WITH A DULL BLACK FINISH SHALL EXTEND 5" BEYOND THE EDGE OF PROPOSED VEHICULAR SIGNAL HEAD #5.
4. A 3" WIDE YELLOW RETROREFLECTIVE STRIP SHALL BE PLACED ALONG THE PERIMETER OF EACH PROPOSED BACKPLATE FACE.



REVISIONS		
NO.	DATE	BY

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

2017 INTERSECTION SAFETY IMPROVEMENTS STATEWIDE

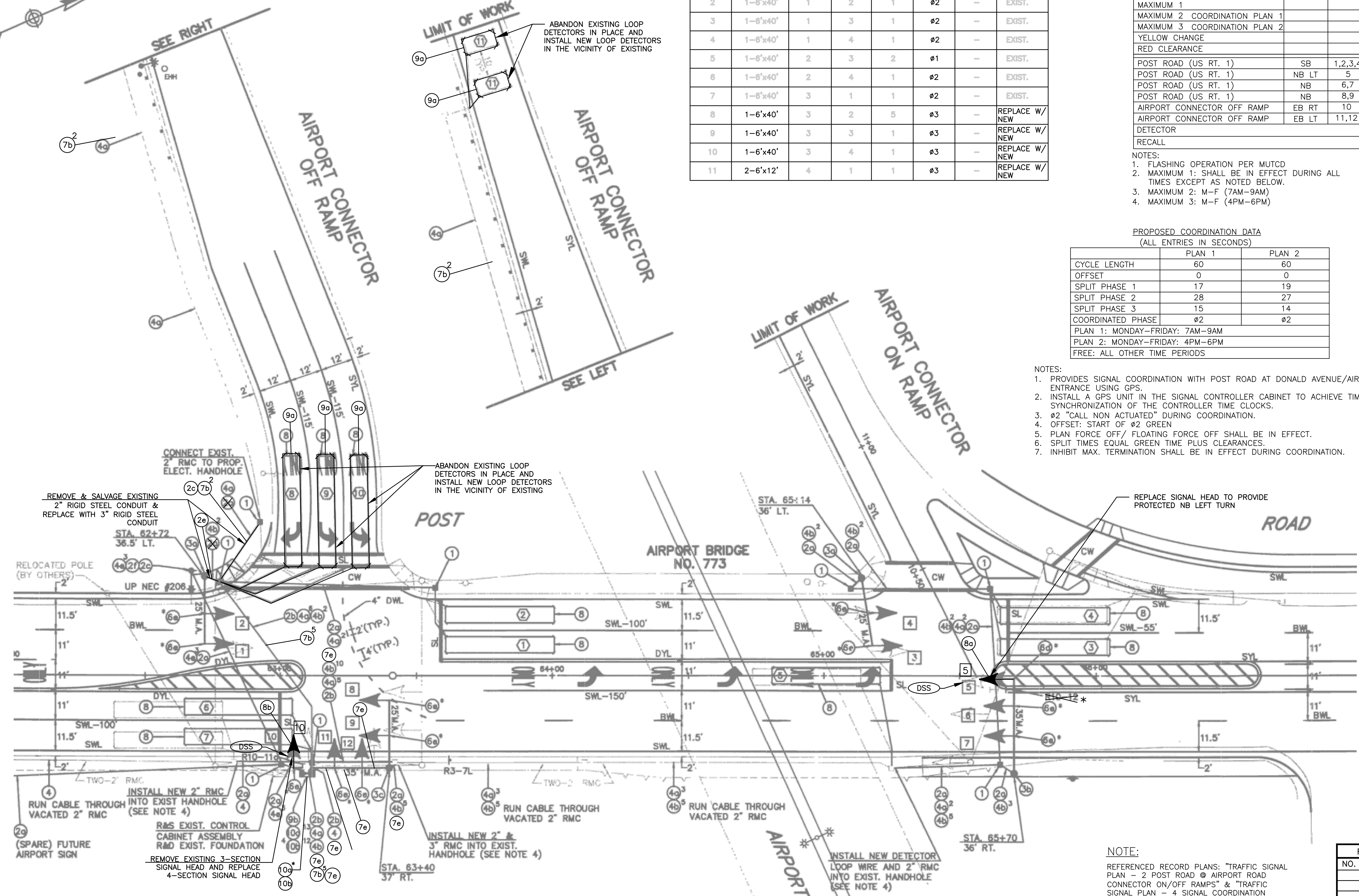
STATEWIDE, RHODE ISLAND

TRAFFIC SIGNAL PLAN NO. 2

POST ROAD AT AIRPORT CONNECTOR

CHECKED BY D.F. DATE 02/26/2018 SCALE AS NOTED

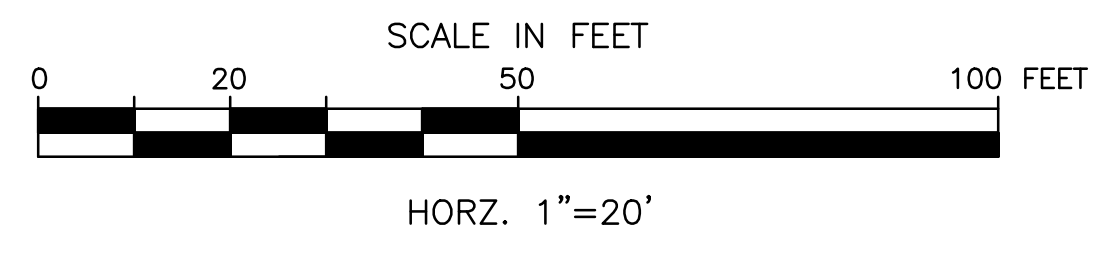
NOTE:
REFERENCED RECORD PLANS: "TRAFFIC SIGNAL PLAN - 2 POST ROAD @ AIRPORT ROAD CONNECTOR ON/OFF RAMP" & "TRAFFIC SIGNAL PLAN - 4 SIGNAL COORDINATION DETAILS, NOTES & LEGEND" BY VHB DATED 1997, FEDERAL AND PROJECT NUMBER: NHS-001-055, NHSG-001-056 SHOWN IN SCREENED PRINT.
PROPOSED WORK SHOWN IN DARK BLACK PRINT.
* THE SIGN R10-12 DOES NOT EXIST ON MAST ARM BASED ON FIELD VISIT CONDUCT BY GREEN INTERNATIONAL AFFILIATES, INC. ON JULY 26, 2017.



PROPOSED TRAFFIC SIGNAL MATERIALS LIST

- 1b BREAK INTO EXISTING HANDHOLE
- 2c 3" RIGID STEEL CONDUIT (UNDERGROUND)
- 2e 3" RIGID STEEL CONDUIT (UNDER EXIST. PAVEMENT)
- 7a CABLE, SINGLE CONDUCTOR, NO. 6 A.W.G., 600V INSULATION
- 7b LOOP DETECTOR SHIELDED, TWISTED CABLE, 2 CONDUCTOR, NO. 14 A.W.G.
- 7e CABLE, 7 CONDUCTOR, NO. 14 A.W.G.
- 8a SIGNAL HEAD, 1 WAY, 3 SECTION, 12 INCH, MAST ARM MOUNTED
- 8b SIGNAL HEAD, 1 WAY, 4 SECTION, 12 INCH, MAST ARM MOUNTED
- 9a TRAFFIC DETECTORS, LOOP TYPE (R.I. STD. 19.6.0)
- 10a MODIFY EXISTING SIGNAL CONTROLLER AND CABINET
- 10b REWIRING EXISTING SIGNAL CONTROLLER CABINET
- * INSTALL A GPS TIME SYNCHRONIZATION DEVICE TO THE SIGNAL CONTROLLER

REFER TO SHEET NO. 20-21 FOR SIGNING AND STRIPING PLANS



Appendix B

Traffic Count Data



Transportation Data Corporation
 Mario Perone, mperone1@verizon.net
 tel (781) 587-0086 cell (781) 439-4999

N/S: Post Road (Route 1)
 W: T.F. Green Connector Road Off-Ramp
 City, State: Warwick, RI
 Client: Pare/J. Shevlin

File Name : 05462A
 Site Code : 05462
 Start Date : 9/21/2021
 Page No : 1

Groups Printed- Cars & Peds

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road Off-Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
07:00 AM	0	62	0	146	0	0	25	46	0	279
07:15 AM	0	91	0	170	0	0	23	54	0	338
07:30 AM	0	126	0	217	0	0	34	56	0	433
07:45 AM	0	123	0	222	0	0	45	65	0	455
Total	0	402	0	755	0	0	127	221	0	1505
08:00 AM	0	107	0	210	0	0	32	51	0	400
08:15 AM	0	107	0	151	0	0	47	68	0	373
08:30 AM	0	126	0	197	0	0	40	49	1	413
08:45 AM	0	133	0	185	0	0	40	72	0	430
Total	0	473	0	743	0	0	159	240	1	1616
Grand Total	0	875	0	1498	0	0	286	461	1	3121
Apprch %	0	100	0	100	0	0	38.2	61.6	0.1	
Total %	0	28	0	48	0	0	9.2	14.8	0	

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road Off-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	0	126	0	126	217	0	0	217	34	56	0	90	433
07:45 AM	0	123	0	123	222	0	0	222	45	65	0	110	455
08:00 AM	0	107	0	107	210	0	0	210	32	51	0	83	400
08:15 AM	0	107	0	107	151	0	0	151	47	68	0	115	373
Total Volume	0	463	0	463	800	0	0	800	158	240	0	398	1661
% App. Total	0	100	0		100	0	0		39.7	60.3	0		
PHF	.000	.919	.000	.919	.901	.000	.000	.901	.840	.882	.000	.865	.913

Transportation Data Corporation

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N/S: Post Road (Route 1)
W: T.F. Green Connector Road Off-Ramp
City, State: Warwick, RI
Client: Pare/J. Shevlin

File Name : 05462A
Site Code : 05462
Start Date : 9/21/2021
Page No : 1

Groups Printed- Trucks & Buses

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road Off-Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
07:00 AM	0	5	0	6	0	0	2	0	0	13
07:15 AM	0	5	0	1	0	0	2	2	0	10
07:30 AM	0	7	0	5	0	0	0	0	0	12
07:45 AM	0	4	0	8	0	0	2	0	0	14
Total	0	21	0	20	0	0	6	2	0	49
08:00 AM	0	2	0	5	0	0	1	0	0	8
08:15 AM	0	4	0	6	0	0	0	3	0	13
08:30 AM	0	7	0	1	0	0	3	3	0	14
08:45 AM	0	4	0	7	0	0	0	2	0	13
Total	0	17	0	19	0	0	4	8	0	48
Grand Total	0	38	0	39	0	0	10	10	0	97
Apprch %	0	100	0	100	0	0	50	50	0	
Total %	0	39.2	0	40.2	0	0	10.3	10.3	0	

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road Off-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	0	5	0	5	6	0	0	6	2	0	0	2	13
07:15 AM	0	5	0	5	1	0	0	1	2	2	0	4	10
07:30 AM	0	7	0	7	5	0	0	5	0	0	0	0	12
07:45 AM	0	4	0	4	8	0	0	8	2	0	0	2	14
Total Volume	0	21	0	21	20	0	0	20	6	2	0	8	49
% App. Total	0	100	0		100	0	0		75	25	0		
PHF	.000	.750	.000	.750	.625	.000	.000	.625	.750	.250	.000	.500	.875

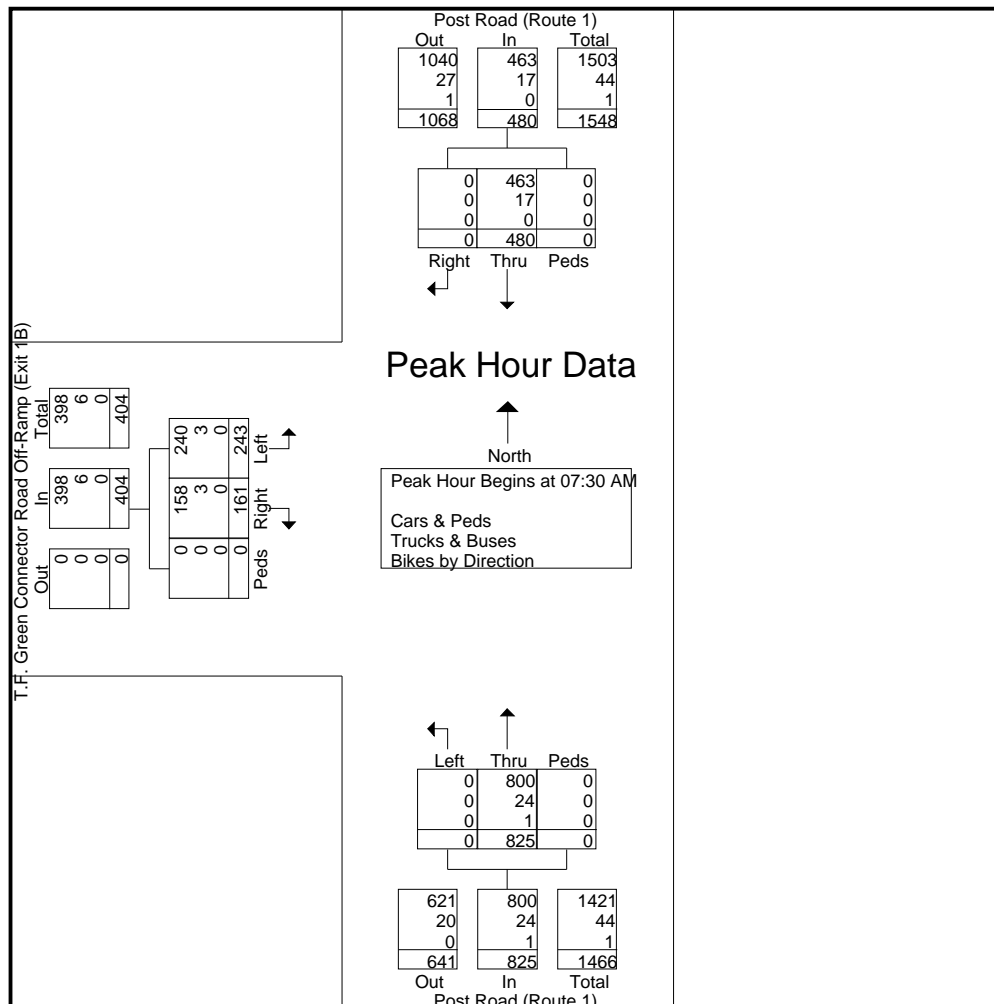
Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781) 587-0086 cell (781) 439-4999

N/S: Post Road (Route 1)
W: T.F. Green Connector Road Off-Ramp
City, State: Warwick, RI
Client: Pare/J. Shevlin

File Name : 05462A
Site Code : 05462
Start Date : 9/21/2021
Page No : 1

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road Off-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	0	133	0	133	223	0	0	223	34	56	0	90	446
07:45 AM	0	127	0	127	230	0	0	230	47	65	0	112	469
08:00 AM	0	109	0	109	215	0	0	215	33	51	0	84	408
08:15 AM	0	111	0	111	157	0	0	157	47	71	0	118	386
Total Volume	0	480	0	480	825	0	0	825	161	243	0	404	1709
% App. Total	0	100	0		100	0	0		39.9	60.1	0		
PHF	.000	.902	.000	.902	.897	.000	.000	.897	.856	.856	.000	.856	.911
Cars & Peds	0	463	0	463	800	0	0	800	158	240	0	398	1661
% Cars & Peds	0	96.5	0	96.5	97.0	0	0	97.0	98.1	98.8	0	98.5	97.2
Trucks & Buses	0	17	0	17	24	0	0	24	3	3	0	6	47
% Trucks & Buses	0	3.5	0	3.5	2.9	0	0	2.9	1.9	1.2	0	1.5	2.8
Bikes by Direction	0	0	0	0	1	0	0	1	0	0	0	0	1
% Bikes by Direction	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0.1



Transportation Data Corporation

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N/S: Post Road (Route 1)
W: T.F. Green Connector Road Off-Ramp
City, State: Warwick, RI
Client: Pare/J. Shevlin

File Name : 05462A
Site Code : 05462
Start Date : 9/21/2021
Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road Off- Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
07:00 AM	0	68	0	152	0	0	27	46	0	293
07:15 AM	0	96	0	171	0	0	25	56	0	348
07:30 AM	0	133	0	223	0	0	34	56	0	446
07:45 AM	0	127	0	230	0	0	47	65	0	469
Total	0	424	0	776	0	0	133	223	0	1556
08:00 AM	0	109	0	215	0	0	33	51	0	408
08:15 AM	0	111	0	157	0	0	47	71	0	386
08:30 AM	0	133	0	198	0	0	43	52	1	427
08:45 AM	0	137	0	192	0	0	40	74	0	443
Total	0	490	0	762	0	0	163	248	1	1664
Grand Total	0	914	0	1538	0	0	296	471	1	3220
Apprch %	0	100	0	100	0	0	38.5	61.3	0.1	
Total %	0	28.4	0	47.8	0	0	9.2	14.6	0	
Cars & Peds	0	875	0	1498	0	0	286	461	1	3121
% Cars & Peds	0	95.7	0	97.4	0	0	96.6	97.9	100	96.9
Trucks & Buses	0	38	0	39	0	0	10	10	0	97
% Trucks & Buses	0	4.2	0	2.5	0	0	3.4	2.1	0	3
Bikes by Direction	0	1	0	1	0	0	0	0	0	2
% Bikes by Direction	0	0.1	0	0.1	0	0	0	0	0	0.1

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road Off-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	0	133	0	133	223	0	0	223	34	56	0	90	446
07:45 AM	0	127	0	127	230	0	0	230	47	65	0	112	469
08:00 AM	0	109	0	109	215	0	0	215	33	51	0	84	408
08:15 AM	0	111	0	111	157	0	0	157	47	71	0	118	386
Total Volume	0	480	0	480	825	0	0	825	161	243	0	404	1709
% App. Total	0	100	0	100	100	0	0	100	39.9	60.1	0	100	
PHF	.000	.902	.000	.902	.897	.000	.000	.897	.856	.856	.000	.856	.911
Cars & Peds	0	463	0	463	800	0	0	800	158	240	0	398	1661
% Cars & Peds	0	96.5	0	96.5	97.0	0	0	97.0	98.1	98.8	0	98.5	97.2
Trucks & Buses	0	17	0	17	24	0	0	24	3	3	0	6	47
% Trucks & Buses	0	3.5	0	3.5	2.9	0	0	2.9	1.9	1.2	0	1.5	2.8
Bikes by Direction	0	0	0	0	1	0	0	1	0	0	0	0	1
% Bikes by Direction	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0.1

Transportation Data Corporation
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N/S: Post Road (Route 1)
 W: T.F. Green Connector Road Off-Ramp
 City, State: Warwick, RI
 Client: Pare/J. Shevlin

File Name : 05462AA
 Site Code : 05462
 Start Date : 9/21/2021
 Page No : 1

Groups Printed- Cars & Peds

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road Off-Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
04:00 PM	0	177	0	206	0	0	65	100	0	548
04:15 PM	0	179	0	216	0	0	69	97	0	561
04:30 PM	0	158	0	221	0	0	56	109	0	544
04:45 PM	0	160	0	197	0	0	67	111	0	535
Total	0	674	0	840	0	0	257	417	0	2188
05:00 PM	0	168	0	230	0	0	55	93	1	547
05:15 PM	0	173	0	180	0	0	58	104	0	515
05:30 PM	0	132	0	186	0	0	45	93	1	457
05:45 PM	0	145	0	176	0	0	43	94	0	458
Total	0	618	0	772	0	0	201	384	2	1977
Grand Total	0	1292	0	1612	0	0	458	801	2	4165
Apprch %	0	100	0	100	0	0	36.3	63.5	0.2	
Total %	0	31	0	38.7	0	0	11	19.2	0	

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road Off-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
04:00 PM	0	177	0	177	206	0	0	206	65	100	0	165	548
04:15 PM	0	179	0	179	216	0	0	216	69	97	0	166	561
04:30 PM	0	158	0	158	221	0	0	221	56	109	0	165	544
04:45 PM	0	160	0	160	197	0	0	197	67	111	0	178	535
Total Volume	0	674	0	674	840	0	0	840	257	417	0	674	2188
% App. Total	0	100	0		100	0	0		38.1	61.9	0		
PHF	.000	.941	.000	.941	.950	.000	.000	.950	.931	.939	.000	.947	.975

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:00 PM

Transportation Data Corporation

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N/S: Post Road (Route 1)
W: T.F. Green Connector Road Off-Ramp
City, State: Warwick, RI
Client: Pare/J. Shevlin

File Name : 05462AA
Site Code : 05462
Start Date : 9/21/2021
Page No : 1

Groups Printed- Trucks & Buses

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road Off-Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
04:00 PM	0	3	0	2	0	0	0	1	0	6
04:15 PM	0	2	0	2	0	0	0	0	0	4
04:30 PM	0	1	0	0	0	0	1	0	0	2
04:45 PM	0	1	0	2	0	0	0	0	0	3
Total	0	7	0	6	0	0	1	1	0	15
05:00 PM	0	2	0	2	0	0	0	0	0	4
05:15 PM	0	0	0	2	0	0	0	3	0	5
05:30 PM	0	1	0	1	0	0	0	1	0	3
05:45 PM	0	1	0	4	0	0	0	0	0	5
Total	0	4	0	9	0	0	0	4	0	17
Grand Total	0	11	0	15	0	0	1	5	0	32
Apprch %	0	100	0	100	0	0	16.7	83.3	0	
Total %	0	34.4	0	46.9	0	0	3.1	15.6	0	

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road Off-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	2	0	2	2	0	0	2	0	0	0	0	4
05:15 PM	0	0	0	0	2	0	0	2	0	3	0	3	5
05:30 PM	0	1	0	1	1	0	0	1	0	1	0	1	3
05:45 PM	0	1	0	1	4	0	0	4	0	0	0	0	5
Total Volume	0	4	0	4	9	0	0	9	0	4	0	4	17
% App. Total	0	100	0	100	100	0	0	100	0	100	0	100	
PHF	.000	.500	.000	.500	.563	.000	.000	.563	.000	.333	.000	.333	.850

Transportation Data Corporation
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N/S: Post Road (Route 1)
 W: T.F. Green Connector Road Off-Ramp
 City, State: Warwick, RI
 Client: Pare/J. Shevlin

File Name : 05462AA
 Site Code : 05462
 Start Date : 9/21/2021
 Page No : 1

Groups Printed- Bikes by Direction

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road Off- Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	1	0	0	0	0	0	1
04:30 PM	0	1	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	0	2
Apprch %	0	100	0	100	0	0	0	0	0	
Total %	0	50	0	50	0	0	0	0	0	

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road Off-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	1	0	0	1	0	0	0	0	2
% App. Total	0	100	0	100	100	0	0	100	0	0	0	0	50
PHF	.000	.250	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000	.500

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:00 PM

Transportation Data Corporation

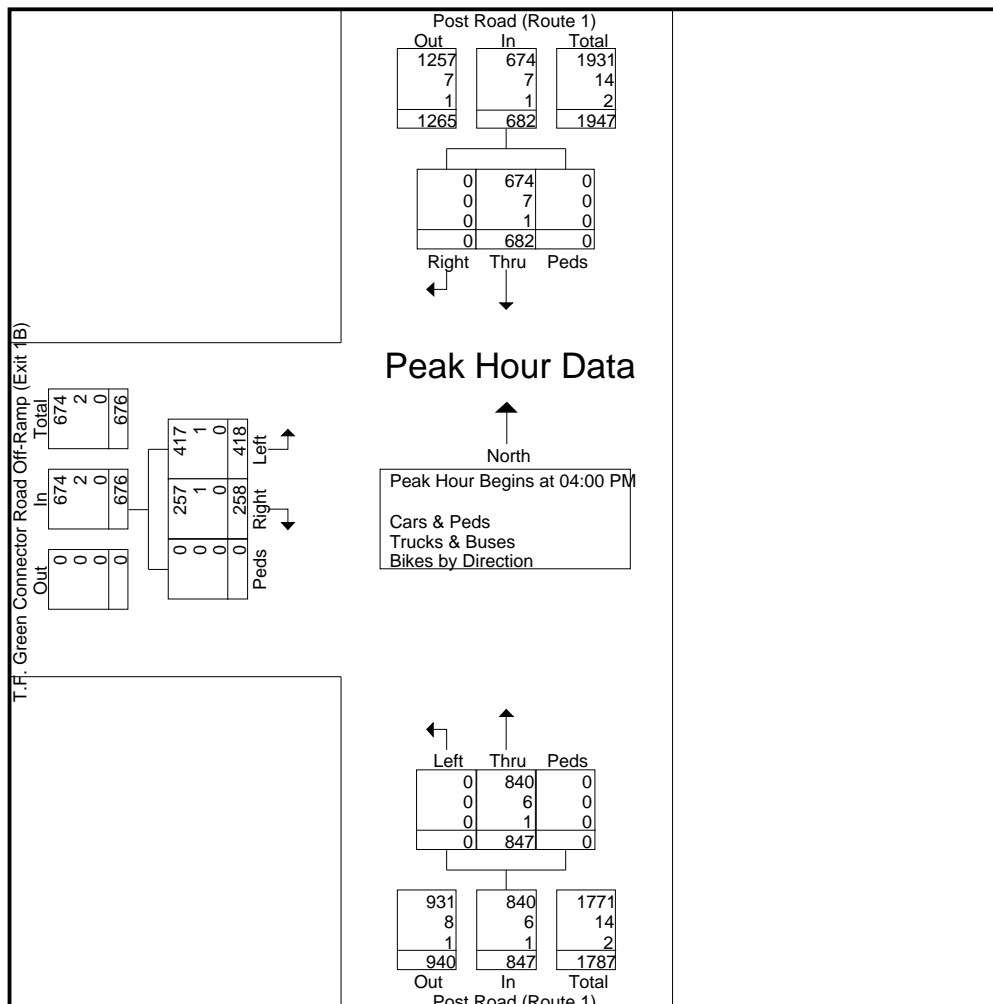
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N/S: Post Road (Route 1)
 W: T.F. Green Connector Road Off-Ramp
 City, State: Warwick, RI
 Client: Pare/J. Shevlin

File Name : 05462AA
 Site Code : 05462
 Start Date : 9/21/2021
 Page No : 1

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road Off-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	0	180	0	180	208	0	0	208	65	101	0	166	554
04:15 PM	0	181	0	181	219	0	0	219	69	97	0	166	566
04:30 PM	0	160	0	160	221	0	0	221	57	109	0	166	547
04:45 PM	0	161	0	161	199	0	0	199	67	111	0	178	538
Total Volume	0	682	0	682	847	0	0	847	258	418	0	676	2205
% App. Total	0	100	0		100	0	0		38.2	61.8	0		
PHF	.000	.942	.000	.942	.958	.000	.000	.958	.935	.941	.000	.949	.974
Cars & Peds	0	674	0	674	840	0	0	840	257	417	0	674	2188
% Cars & Peds	0	98.8	0	98.8	99.2	0	0	99.2	99.6	99.8	0	99.7	99.2
Trucks & Buses	0	7	0	7	6	0	0	6	1	1	0	2	15
% Trucks & Buses	0	1.0	0	1.0	0.7	0	0	0.7	0.4	0.2	0	0.3	0.7
Bikes by Direction	0	1	0	1	1	0	0	1	0	0	0	0	2
% Bikes by Direction	0	0.1	0	0.1	0.1	0	0	0.1	0	0	0	0	0.1



Transportation Data Corporation
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N/S: Post Road (Route 1)
 W: T.F. Green Connector Road Off-Ramp
 City, State: Warwick, RI
 Client: Pare/J. Shevlin

File Name : 05462AA
 Site Code : 05462
 Start Date : 9/21/2021
 Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road Off-Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
04:00 PM	0	180	0	208	0	0	65	101	0	554
04:15 PM	0	181	0	219	0	0	69	97	0	566
04:30 PM	0	160	0	221	0	0	57	109	0	547
04:45 PM	0	161	0	199	0	0	67	111	0	538
Total	0	682	0	847	0	0	258	418	0	2205
05:00 PM	0	170	0	232	0	0	55	93	1	551
05:15 PM	0	173	0	182	0	0	58	107	0	520
05:30 PM	0	133	0	187	0	0	45	94	1	460
05:45 PM	0	146	0	180	0	0	43	94	0	463
Total	0	622	0	781	0	0	201	388	2	1994
Grand Total	0	1304	0	1628	0	0	459	806	2	4199
Apprch %	0	100	0	100	0	0	36.2	63.6	0.2	
Total %	0	31.1	0	38.8	0	0	10.9	19.2	0	
Cars & Peds	0	1292	0	1612	0	0	458	801	2	4165
% Cars & Peds	0	99.1	0	99	0	0	99.8	99.4	100	99.2
Trucks & Buses	0	11	0	15	0	0	1	5	0	32
% Trucks & Buses	0	0.8	0	0.9	0	0	0.2	0.6	0	0.8
Bikes by Direction	0	1	0	1	0	0	0	0	0	2
% Bikes by Direction	0	0.1	0	0.1	0	0	0	0	0	0

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road Off-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	0	180	0	180	208	0	0	208	65	101	0	166	554
04:15 PM	0	181	0	181	219	0	0	219	69	97	0	166	566
04:30 PM	0	160	0	160	221	0	0	221	57	109	0	166	547
04:45 PM	0	161	0	161	199	0	0	199	67	111	0	178	538
Total Volume	0	682	0	682	847	0	0	847	258	418	0	676	2205
% App. Total	0	100	0	100	100	0	0	100	38.2	61.8	0		
PHF	.000	.942	.000	.942	.958	.000	.000	.958	.935	.941	.000	.949	.974
Cars & Peds	0	674	0	674	840	0	0	840	257	417	0	674	2188
% Cars & Peds	0	98.8	0	98.8	99.2	0	0	99.2	99.6	99.8	0	99.7	99.2
Trucks & Buses	0	7	0	7	6	0	0	6	1	1	0	2	15
% Trucks & Buses	0	1.0	0	1.0	0.7	0	0	0.7	0.4	0.2	0	0.3	0.7
Bikes by Direction	0	1	0	1	1	0	0	1	0	0	0	0	2
% Bikes by Direction	0	0.1	0	0.1	0.1	0	0	0.1	0	0	0	0	0.1

Transportation Data Corporation

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N/S: Post Road (Route 1)
W: T.F. Green Connector Road On-Ramp
City, State: Warwick, RI
Client: Pare/J. Shevlin

File Name : 05462B
Site Code : 05462
Start Date : 9/21/2021
Page No : 1

Groups Printed- Cars & Peds

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road On-Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
07:00 AM	97	61	0	141	53	0	0	0	0	352
07:15 AM	93	90	0	157	68	0	0	0	0	408
07:30 AM	93	125	0	192	80	0	0	0	0	490
07:45 AM	84	121	0	204	83	0	0	0	0	492
Total	367	397	0	694	284	0	0	0	0	1742
08:00 AM	78	108	0	183	76	0	0	0	0	445
08:15 AM	80	111	0	170	49	0	0	0	0	410
08:30 AM	66	123	0	185	60	0	0	0	1	435
08:45 AM	56	134	0	188	67	0	0	0	0	445
Total	280	476	0	726	252	0	0	0	1	1735
Grand Total	647	873	0	1420	536	0	0	0	1	3477
Apprch %	42.6	57.4	0	72.6	27.4	0	0	0	100	
Total %	18.6	25.1	0	40.8	15.4	0	0	0	0	

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road On-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	93	125	0	218	192	80	0	272	0	0	0	0	490
07:45 AM	84	121	0	205	204	83	0	287	0	0	0	0	492
08:00 AM	78	108	0	186	183	76	0	259	0	0	0	0	445
08:15 AM	80	111	0	191	170	49	0	219	0	0	0	0	410
Total Volume	335	465	0	800	749	288	0	1037	0	0	0	0	1837
% App. Total	41.9	58.1	0		72.2	27.8	0		0	0	0		
PHF	.901	.930	.000	.917	.918	.867	.000	.903	.000	.000	.000	.000	.933

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N/S: Post Road (Route 1)
W: T.F. Green Connector Road On-Ramp
City, State: Warwick, RI
Client: Pare/J. Shevlin

File Name : 05462B
Site Code : 05462
Start Date : 9/21/2021
Page No : 1

Groups Printed- Trucks & Buses

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road On- Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
07:00 AM	2	5	0	6	0	0	0	0	0	13
07:15 AM	8	5	0	2	1	0	0	0	0	16
07:30 AM	3	6	0	4	1	0	0	0	0	14
07:45 AM	3	4	0	7	1	0	0	0	0	15
Total	16	20	0	19	3	0	0	0	0	58
08:00 AM	3	2	0	4	1	0	0	0	0	10
08:15 AM	2	3	0	6	2	0	0	0	0	13
08:30 AM	2	7	0	4	1	0	0	0	0	14
08:45 AM	4	4	0	7	2	0	0	0	0	17
Total	11	16	0	21	6	0	0	0	0	54
Grand Total	27	36	0	40	9	0	0	0	0	112
Apprch %	42.9	57.1	0	81.6	18.4	0	0	0	0	
Total %	24.1	32.1	0	35.7	8	0	0	0	0	

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road On-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	2	5	0	7	6	0	0	6	0	0	0	0	13
07:15 AM	8	5	0	13	2	1	0	3	0	0	0	0	16
07:30 AM	3	6	0	9	4	1	0	5	0	0	0	0	14
07:45 AM	3	4	0	7	7	1	0	8	0	0	0	0	15
Total Volume	16	20	0	36	19	3	0	22	0	0	0	0	58
% App. Total	44.4	55.6	0		86.4	13.6	0		0	0	0		
PHF	.500	.833	.000	.692	.679	.750	.000	.688	.000	.000	.000	.000	.906

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N/S: Post Road (Route 1)
 W: T.F. Green Connector Road On-Ramp
 City, State: Warwick, RI
 Client: Pare/J. Shevlin

File Name : 05462B
 Site Code : 05462
 Start Date : 9/21/2021
 Page No : 1

Groups Printed- Bikes by Direction

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road On-Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
07:00 AM	0	1	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	1	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	0	2
Apprch %	0	100	0	100	0	0	0	0	0	
Total %	0	50	0	50	0	0	0	0	0	

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road On-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	1	0	0	1	0	0	0	0	2
% App. Total	0	100	0	100	100	0	0	100	0	0	0	0	50
PHF	.000	.250	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000	.500

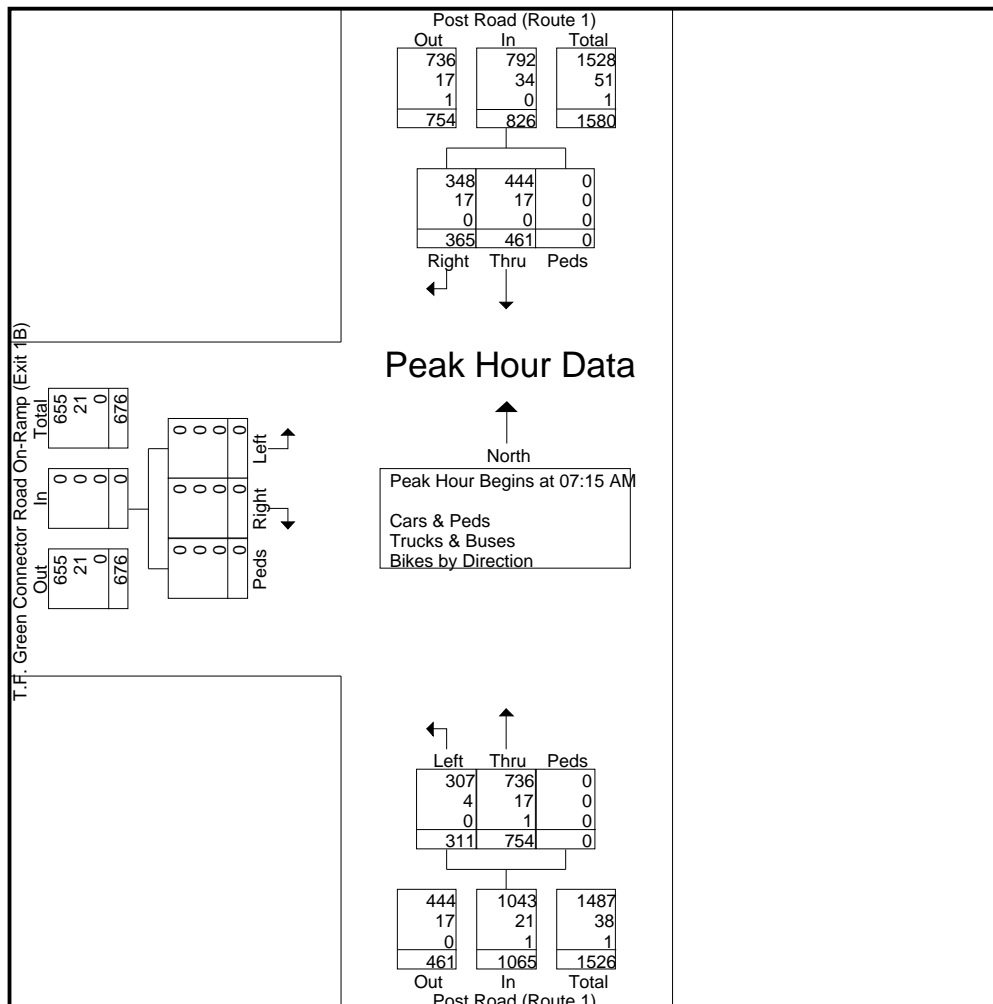
Transportation Data Corporation

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N/S: Post Road (Route 1)
W: T.F. Green Connector Road On-Ramp
City, State: Warwick, RI
Client: Pare/J. Shevlin

File Name : 05462B
Site Code : 05462
Start Date : 9/21/2021
Page No : 1

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road On-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	101	95	0	196	159	69	0	228	0	0	0	0	424
07:30 AM	96	131	0	227	197	81	0	278	0	0	0	0	505
07:45 AM	87	125	0	212	211	84	0	295	0	0	0	0	507
08:00 AM	81	110	0	191	187	77	0	264	0	0	0	0	455
Total Volume	365	461	0	826	754	311	0	1065	0	0	0	0	1891
% App. Total	44.2	55.8	0		70.8	29.2	0		0	0	0		
PHF	.903	.880	.000	.910	.893	.926	.000	.903	.000	.000	.000	.000	.932
Cars & Peds	348	444	0	792	736	307	0	1043	0	0	0	0	1835
% Cars & Peds	95.3	96.3	0	95.9	97.6	98.7	0	97.9	0	0	0	0	97.0
Trucks & Buses	17	17	0	34	17	4	0	21	0	0	0	0	55
% Trucks & Buses	4.7	3.7	0	4.1	2.3	1.3	0	2.0	0	0	0	0	2.9
Bikes by Direction	0	0	0	0	1	0	0	1	0	0	0	0	1
% Bikes by Direction	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0.1



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N/S: Post Road (Route 1)
 W: T.F. Green Connector Road On-Ramp
 City, State: Warwick, RI
 Client: Pare/J. Shevlin

File Name : 05462B
 Site Code : 05462
 Start Date : 9/21/2021
 Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road On-Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
07:00 AM	99	67	0	147	53	0	0	0	0	366
07:15 AM	101	95	0	159	69	0	0	0	0	424
07:30 AM	96	131	0	197	81	0	0	0	0	505
07:45 AM	87	125	0	211	84	0	0	0	0	507
Total	383	418	0	714	287	0	0	0	0	1802
08:00 AM	81	110	0	187	77	0	0	0	0	455
08:15 AM	82	114	0	176	51	0	0	0	0	423
08:30 AM	68	130	0	189	61	0	0	0	1	449
08:45 AM	60	138	0	195	69	0	0	0	0	462
Total	291	492	0	747	258	0	0	0	1	1789
Grand Total	674	910	0	1461	545	0	0	0	1	3591
Apprch %	42.6	57.4	0	72.8	27.2	0	0	0	100	
Total %	18.8	25.3	0	40.7	15.2	0	0	0	0	
Cars & Peds	647	873	0	1420	536	0	0	0	1	3477
% Cars & Peds	96	95.9	0	97.2	98.3	0	0	0	100	96.8
Trucks & Buses	27	36	0	40	9	0	0	0	0	112
% Trucks & Buses	4	4	0	2.7	1.7	0	0	0	0	3.1
Bikes by Direction	0	1	0	1	0	0	0	0	0	2
% Bikes by Direction	0	0.1	0	0.1	0	0	0	0	0	0.1

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road On-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	101	95	0	196	159	69	0	228	0	0	0	0	424
07:30 AM	96	131	0	227	197	81	0	278	0	0	0	0	505
07:45 AM	87	125	0	212	211	84	0	295	0	0	0	0	507
08:00 AM	81	110	0	191	187	77	0	264	0	0	0	0	455
Total Volume	365	461	0	826	754	311	0	1065	0	0	0	0	1891
% App. Total	44.2	55.8	0		70.8	29.2	0		0	0	0	0	
PHF	.903	.880	.000	.910	.893	.926	.000	.903	.000	.000	.000	.000	.932
Cars & Peds	348	444	0	792	736	307	0	1043	0	0	0	0	1835
% Cars & Peds	95.3	96.3	0	95.9	97.6	98.7	0	97.9	0	0	0	0	97.0
Trucks & Buses	17	17	0	34	17	4	0	21	0	0	0	0	55
% Trucks & Buses	4.7	3.7	0	4.1	2.3	1.3	0	2.0	0	0	0	0	2.9
Bikes by Direction	0	0	0	0	1	0	0	1	0	0	0	0	1
% Bikes by Direction	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0.1

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 City, State: Warwick, RI
 Client: Pare/J. Shevlin

File Name : 05462BB
 Site Code : 05462
 Start Date : 9/21/2021
 Page No : 1

Groups Printed- Cars & Peds

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road On- Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
04:00 PM	84	179	0	238	69	0	0	0	0	570
04:15 PM	81	179	0	252	60	0	0	0	0	572
04:30 PM	74	159	0	279	50	0	0	0	1	563
04:45 PM	81	159	0	244	65	0	0	0	0	549
Total	320	676	0	1013	244	0	0	0	1	2254
05:00 PM	86	169	0	251	71	0	0	0	1	578
05:15 PM	75	174	0	232	54	0	0	0	0	535
05:30 PM	87	131	1	228	52	0	0	0	1	500
05:45 PM	86	146	0	209	58	0	0	0	0	499
Total	334	620	1	920	235	0	0	0	2	2112
Grand Total	654	1296	1	1933	479	0	0	0	3	4366
Apprch %	33.5	66.4	0.1	80.1	19.9	0	0	0	100	
Total %	15	29.7	0	44.3	11	0	0	0	0.1	

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road On-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:15 PM													
04:15 PM	81	179	0	260	252	60	0	312	0	0	0	0	572
04:30 PM	74	159	0	233	279	50	0	329	0	0	1	1	563
04:45 PM	81	159	0	240	244	65	0	309	0	0	0	0	549
05:00 PM	86	169	0	255	251	71	0	322	0	0	1	1	578
Total Volume	322	666	0	988	1026	246	0	1272	0	0	2	2	2262
% App. Total	32.6	67.4	0		80.7	19.3	0		0	0	100		
PHF	.936	.930	.000	.950	.919	.866	.000	.967	.000	.000	.500	.500	.978

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 City, State: Warwick, RI
 Client: Pare/J. Shevlin

File Name : 05462BB
 Site Code : 05462
 Start Date : 9/21/2021
 Page No : 1

Groups Printed- Trucks & Buses

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road On- Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
04:00 PM	1	3	0	2	1	0	0	0	0	7
04:15 PM	3	2	0	1	1	0	0	0	0	7
04:30 PM	1	1	0	0	0	0	0	0	0	2
04:45 PM	3	1	0	0	2	0	0	0	0	6
Total	8	7	0	3	4	0	0	0	0	22
05:00 PM	0	2	0	2	0	0	0	0	0	4
05:15 PM	3	0	0	3	1	0	0	0	0	7
05:30 PM	2	1	0	2	1	0	0	0	0	6
05:45 PM	2	1	0	4	0	0	0	0	0	7
Total	7	4	0	11	2	0	0	0	0	24
Grand Total	15	11	0	14	6	0	0	0	0	46
Apprch %	57.7	42.3	0	70	30	0	0	0	0	
Total %	32.6	23.9	0	30.4	13	0	0	0	0	

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road On-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	0	2	0	2	2	0	0	2	0	0	0	0	4
05:15 PM	3	0	0	3	3	1	0	4	0	0	0	0	7
05:30 PM	2	1	0	3	2	1	0	3	0	0	0	0	6
05:45 PM	2	1	0	3	4	0	0	4	0	0	0	0	7
Total Volume	7	4	0	11	11	2	0	13	0	0	0	0	24
% App. Total	63.6	36.4	0		84.6	15.4	0		0	0	0		
PHF	.583	.500	.000	.917	.688	.500	.000	.813	.000	.000	.000	.000	.857

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City, State: Warwick, RI
Client: Pare/J. Shevlin

File Name : 05462BB
Site Code : 05462
Start Date : 9/21/2021
Page No : 1

Groups Printed- Bikes by Direction

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road On- Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	1	0	0	0	0	0	1
04:30 PM	0	1	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	0	2
Apprch %	0	100	0	100	0	0	0	0	0	
Total %	0	50	0	50	0	0	0	0	0	

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road On-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	1	0	0	1	0	0	0	0	2
% App. Total	0	100	0	100	100	0	0	100	0	0	0	0	50
PHF	.000	.250	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000	.500

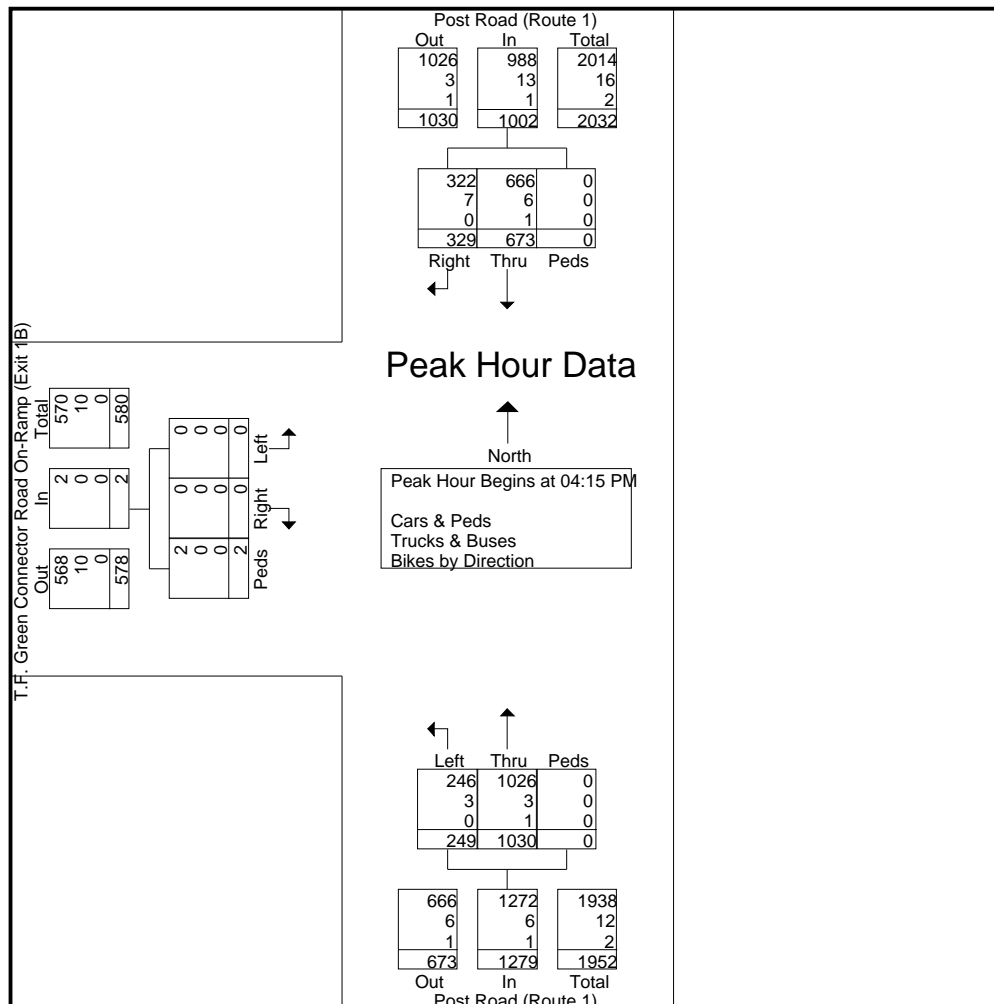
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N/S: Post Road (Route 1)
W: T.F. Green Connector Road On-Ramp
City, State: Warwick, RI
Client: Pare/J. Shevlin

File Name : 05462BB
Site Code : 05462
Start Date : 9/21/2021
Page No : 1

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road On-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:15 PM													
04:15 PM	84	181	0	265	254	61	0	315	0	0	0	0	580
04:30 PM	75	161	0	236	279	50	0	329	0	0	1	1	566
04:45 PM	84	160	0	244	244	67	0	311	0	0	0	0	555
05:00 PM	86	171	0	257	253	71	0	324	0	0	1	1	582
Total Volume	329	673	0	1002	1030	249	0	1279	0	0	2	2	2283
% App. Total	32.8	67.2	0		80.5	19.5	0		0	0	100		
PHF	.956	.930	.000	.945	.923	.877	.000	.972	.000	.000	.500	.500	.981
Cars & Peds	322	666	0	988	1026	246	0	1272	0	0	2	2	2262
% Cars & Peds	97.9	99.0	0	98.6	99.6	98.8	0	99.5	0	0	100	100	99.1
Trucks & Buses	7	6	0	13	3	3	0	6	0	0	0	0	19
% Trucks & Buses	2.1	0.9	0	1.3	0.3	1.2	0	0.5	0	0	0	0	0.8
Bikes by Direction	0	1	0	1	1	0	0	1	0	0	0	0	2
% Bikes by Direction	0	0.1	0	0.1	0.1	0	0	0.1	0	0	0	0	0.1



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 Client: Pare/J. Shevlin

File Name : 05462BB
 Site Code : 05462
 Start Date : 9/21/2021
 Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

Start Time	Post Road (Route 1) From North			Post Road (Route 1) From South			T.F. Green Connector Road On- Ramp (Exit 1B) From West			Int. Total
	Right	Thru	Peds	Thru	Left	Peds	Right	Left	Peds	
04:00 PM	85	182	0	240	70	0	0	0	0	577
04:15 PM	84	181	0	254	61	0	0	0	0	580
04:30 PM	75	161	0	279	50	0	0	0	1	566
04:45 PM	84	160	0	244	67	0	0	0	0	555
Total	328	684	0	1017	248	0	0	0	1	2278
05:00 PM	86	171	0	253	71	0	0	0	1	582
05:15 PM	78	174	0	235	55	0	0	0	0	542
05:30 PM	89	132	1	230	53	0	0	0	1	506
05:45 PM	88	147	0	213	58	0	0	0	0	506
Total	341	624	1	931	237	0	0	0	2	2136
Grand Total	669	1308	1	1948	485	0	0	0	3	4414
Apprch %	33.8	66.1	0.1	80.1	19.9	0	0	0	100	
Total %	15.2	29.6	0	44.1	11	0	0	0	0.1	
Cars & Peds	654	1296	1	1933	479	0	0	0	3	4366
% Cars & Peds	97.8	99.1	100	99.2	98.8	0	0	0	100	98.9
Trucks & Buses	15	11	0	14	6	0	0	0	0	46
% Trucks & Buses	2.2	0.8	0	0.7	1.2	0	0	0	0	1
Bikes by Direction	0	1	0	1	0	0	0	0	0	2
% Bikes by Direction	0	0.1	0	0.1	0	0	0	0	0	0

Start Time	Post Road (Route 1) From North				Post Road (Route 1) From South				T.F. Green Connector Road On-Ramp (Exit 1B) From West				Int. Total
	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:15 PM													
04:15 PM	84	181	0	265	254	61	0	315	0	0	0	0	580
04:30 PM	75	161	0	236	279	50	0	329	0	0	1	1	566
04:45 PM	84	160	0	244	244	67	0	311	0	0	0	0	555
05:00 PM	86	171	0	257	253	71	0	324	0	0	1	1	582
Total Volume	329	673	0	1002	1030	249	0	1279	0	0	2	2	2283
% App. Total	32.8	67.2	0		80.5	19.5	0		0	0	100		
PHF	.956	.930	.000	.945	.923	.877	.000	.972	.000	.000	.500	.500	.981
Cars & Peds	322	666	0	988	1026	246	0	1272	0	0	2	2	2262
% Cars & Peds	97.9	99.0	0	98.6	99.6	98.8	0	99.5	0	0	100	100	99.1
Trucks & Buses	7	6	0	13	3	3	0	6	0	0	0	0	19
% Trucks & Buses	2.1	0.9	0	1.3	0.3	1.2	0	0.5	0	0	0	0	0.8
Bikes by Direction	0	1	0	1	1	0	0	1	0	0	0	0	2
% Bikes by Direction	0	0.1	0	0.1	0.1	0	0	0.1	0	0	0	0	0.1

Appendix C

Background Growth Data



WoodSpring Suites TIA
Warwick, RI
General Background Growth Rate
Pare Project No. 21175.00
October 7, 2021



**Post Road (US-1)
Warwick Census Data**

Used population data to correlate with
vehicle traffic,

	Population
2018	80,847
2019	81,004
Years	1
ANNUAL GROWTH RATE	0.19%
Say	0.50%

Appendix D

Trip Generation Calculations



WoodSpring Suites TIA
 Warwick, RI
 General Background Growth Rate
 Pare Project No. 21175.00
 October 7, 2021



Condominiums

Land Use Code 220: Multifamily Housing (Low-Rise)

Average Vehicle Trip Ends vs. Dwelling Units

Proposed: Dwelling Units 122 Units

On a: Weekday

Average Rate:	$7.99 * 122 =$	975	
Fitted Curve Equation:	$(10.84*122)-423.51 =$	899	
Trips Entering	$50% * 975$	487	
Trips Exiting	$50% * 975$	487	
		975	Trips

AM

On a: Weekday Peak Hour of Generator

Average Rate:	$0.53 * 122 =$	65	
Fitted Curve Equation:	$e((0.86*\ln(122))+0.12) =$	70	
Trips Entering	$53% * 70 =$	37	
Trips Exiting	$47% * 70 =$	33	
		70	Trips

PM

On a: Weekday Peak Hour of Generator

Average Rate:	$.60 * 122 =$	73	
Fitted Curve Equation:	$e((0.95*\ln(122))-0.27) =$	73	
Trips Entering	$58% * 73 =$	43	
Trips Exiting	$42% * 73 =$	31	
		74	Trips

Appendix E

Intersection Capacity Analysis Results



Lanes, Volumes, Timings
 10: T.F. Green Connector Road On Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1	Ø3
Lane Configurations			↶	↷	↷	↷		
Traffic Volume (vph)	0	0	342	830	508	402		
Future Volume (vph)	0	0	342	830	508	402		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00		
Fr _t						0.850		
Fl _t Protected			0.950					
Satd. Flow (prot)	0	0	1787	3539	3471	1538		
Fl _t Permitted			0.950					
Satd. Flow (perm)	0	0	1787	3539	3471	1538		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)								
Link Speed (mph)	30			30	30			
Link Distance (ft)	274			231	510			
Travel Time (s)	6.2			5.3	11.6			
Peak Hour Factor	0.92	0.92	0.90	0.90	0.91	0.91		
Heavy Vehicles (%)	2%	2%	1%	2%	4%	5%		
Adj. Flow (vph)	0	0	380	922	558	442		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	380	922	558	442		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	0			12	12			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15			9		
Number of Detectors			1	2	2	1		
Detector Template			Left	Thru	Thru	Right		
Leading Detector (ft)			20	100	100	20		
Trailing Detector (ft)			0	0	0	0		
Detector 1 Position(ft)			0	0	0	0		
Detector 1 Size(ft)			20	6	6	20		
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)			0.0	0.0	0.0	0.0		
Detector 1 Queue (s)			0.0	0.0	0.0	0.0		
Detector 1 Delay (s)			0.0	0.0	0.0	0.0		
Detector 2 Position(ft)				94	94			
Detector 2 Size(ft)				6	6			
Detector 2 Type				Cl+Ex	Cl+Ex			
Detector 2 Channel								
Detector 2 Extend (s)				0.0	0.0			
Turn Type			Prot	NA	NA	custom		
Protected Phases			1 3	1 2 3	2		1	3
Permitted Phases								1 2 3
Detector Phase			1 3	1 2 3	2			1 2 3
Switch Phase								

Lanes, Volumes, Timings
 10: T.F. Green Connector Road On Ramp

10/18/2021

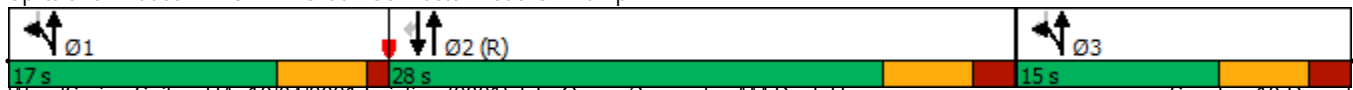


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1	Ø3
Minimum Initial (s)					10.0		6.0	6.0
Minimum Split (s)					16.0		11.0	12.0
Total Split (s)					28.0		17.0	15.0
Total Split (%)					46.7%		28%	25%
Maximum Green (s)					22.0		12.0	9.0
Yellow Time (s)					4.0		4.0	4.0
All-Red Time (s)					2.0		1.0	2.0
Lost Time Adjust (s)					0.0			
Total Lost Time (s)					6.0			
Lead/Lag					Lag		Lead	
Lead-Lag Optimize?					Yes		Yes	
Vehicle Extension (s)					3.0		3.0	3.0
Recall Mode					C-Max		None	None
Walk Time (s)					7.0			
Flash Dont Walk (s)					11.0			
Pedestrian Calls (#/hr)					0			
Act Effect Green (s)			26.9	60.0	22.1	60.0		
Actuated g/C Ratio			0.45	1.00	0.37	1.00		
v/c Ratio			0.47	0.26	0.44	0.29		
Control Delay			12.7	0.2	15.6	0.5		
Queue Delay			2.8	0.0	0.0	0.0		
Total Delay			15.5	0.2	15.6	0.5		
LOS			B	A	B	A		
Approach Delay				4.6	8.9			
Approach LOS				A	A			
Queue Length 50th (ft)			73	0	77	0		
Queue Length 95th (ft)			127	0	116	0		
Internal Link Dist (ft)	194			151	430			
Turn Bay Length (ft)								
Base Capacity (vph)			804	3486	1278	1515		
Starvation Cap Reductn			305	0	0	0		
Spillback Cap Reductn			0	0	0	0		
Storage Cap Reductn			0	0	0	0		
Reduced v/c Ratio			0.76	0.26	0.44	0.29		

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle:	40
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.47
Intersection Signal Delay:	6.5
Intersection LOS:	A
Intersection Capacity Utilization:	73.5%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 10: T.F. Green Connector Road On Ramp



Lanes, Volumes, Timings

7: T.F. Green Connector Road Off Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1
Lane Configurations	↶↶	↷		↶↶	↶↶		
Traffic Volume (vph)	268	178	0	908	528	0	
Future Volume (vph)	268	178	0	908	528	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00	
Fr _t	0.850						
Fl _t Protected	0.950						
Satd. Flow (prot)	3467	1583	0	3505	3471	0	
Fl _t Permitted	0.950						
Satd. Flow (perm)	3467	1583	0	3505	3471	0	
Right Turn on Red	No					Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	30			30	30		
Link Distance (ft)	257			106	231		
Travel Time (s)	5.8			2.4	5.3		
Peak Hour Factor	0.86	0.86	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	2%	0%	3%	4%	0%	
Adj. Flow (vph)	312	207	0	1009	587	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	312	207	0	1009	587	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	24			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Number of Detectors	1	1		2	2		
Detector Template	Left	Right		Thru	Thru		
Leading Detector (ft)	20	20		100	100		
Trailing Detector (ft)	0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		
Detector 1 Size(ft)	20	20		6	6		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		
Detector 2 Position(ft)				94	94		
Detector 2 Size(ft)				6	6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	custom		NA	NA		
Protected Phases	3	13		12	2		1
Permitted Phases							
Detector Phase	3	13		12	2		
Switch Phase							

Lanes, Volumes, Timings
 7: T.F. Green Connector Road Off Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1
Minimum Initial (s)	6.0				10.0		6.0
Minimum Split (s)	12.0				16.0		11.0
Total Split (s)	15.0				28.0		17.0
Total Split (%)	25.0%				46.7%		28%
Maximum Green (s)	9.0				22.0		12.0
Yellow Time (s)	4.0				4.0		4.0
All-Red Time (s)	2.0				2.0		1.0
Lost Time Adjust (s)	0.0				0.0		
Total Lost Time (s)	6.0				6.0		
Lead/Lag					Lag		Lead
Lead-Lag Optimize?					Yes		Yes
Vehicle Extension (s)	3.0				3.0		3.0
Recall Mode	None				C-Max		None
Walk Time (s)	7.0				7.0		7.0
Flash Dont Walk (s)	11.0				11.0		11.0
Pedestrian Calls (#/hr)	0				0		0
Act Effect Green (s)	8.7	26.7		40.3	22.3		
Actuated g/C Ratio	0.14	0.44		0.67	0.37		
v/c Ratio	0.62	0.29		0.43	0.46		
Control Delay	29.9	11.9		5.3	4.7		
Queue Delay	0.3	0.0		0.0	0.1		
Total Delay	30.1	11.9		5.3	4.8		
LOS	C	B		A	A		
Approach Delay	22.9			5.3	4.8		
Approach LOS	C			A	A		
Queue Length 50th (ft)	55	45		72	14		
Queue Length 95th (ft)	86	80		102	20		
Internal Link Dist (ft)	177			26	151		
Turn Bay Length (ft)							
Base Capacity (vph)	520	686		2351	1287		
Starvation Cap Reductn	0	0		0	64		
Spillback Cap Reductn	23	0		0	0		
Storage Cap Reductn	0	0		0	0		
Reduced v/c Ratio	0.63	0.30		0.43	0.48		

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle:	40
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.62
Intersection Signal Delay:	9.5
Intersection LOS:	A
Intersection Capacity Utilization:	73.5%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 7: T.F. Green Connector Road Off Ramp



Lanes, Volumes, Timings
 10: T.F. Green Connector Road On Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1	Ø3
Lane Configurations								
Traffic Volume (vph)	0	0	274	1133	741	362		
Future Volume (vph)	0	0	274	1133	741	362		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00		
Fr _t						0.850		
Fl _t Protected			0.950					
Satd. Flow (prot)	0	0	1787	3610	3574	1583		
Fl _t Permitted			0.950					
Satd. Flow (perm)	0	0	1787	3610	3574	1583		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)								
Link Speed (mph)	30			30	30			
Link Distance (ft)	274			231	510			
Travel Time (s)	6.2			5.3	11.6			
Peak Hour Factor	0.92	0.92	0.97	0.97	0.94	0.94		
Heavy Vehicles (%)	2%	2%	1%	0%	1%	2%		
Adj. Flow (vph)	0	0	282	1168	788	385		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	282	1168	788	385		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	0			12	12			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15			9		
Number of Detectors			1	2	2	1		
Detector Template			Left	Thru	Thru	Right		
Leading Detector (ft)			20	100	100	20		
Trailing Detector (ft)			0	0	0	0		
Detector 1 Position(ft)			0	0	0	0		
Detector 1 Size(ft)			20	6	6	20		
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)			0.0	0.0	0.0	0.0		
Detector 1 Queue (s)			0.0	0.0	0.0	0.0		
Detector 1 Delay (s)			0.0	0.0	0.0	0.0		
Detector 2 Position(ft)				94	94			
Detector 2 Size(ft)				6	6			
Detector 2 Type				Cl+Ex	Cl+Ex			
Detector 2 Channel								
Detector 2 Extend (s)				0.0	0.0			
Turn Type			Prot	NA	NA	custom		
Protected Phases			1 3	1 2 3	2		1	3
Permitted Phases							1 2 3	
Detector Phase			1 3	1 2 3	2	1 2 3		
Switch Phase								

Lanes, Volumes, Timings
 10: T.F. Green Connector Road On Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1	Ø3
Minimum Initial (s)					10.0		6.0	6.0
Minimum Split (s)					16.0		11.0	12.0
Total Split (s)					27.0		19.0	14.0
Total Split (%)					45.0%		32%	23%
Maximum Green (s)					21.0		14.0	8.0
Yellow Time (s)					4.0		4.0	4.0
All-Red Time (s)					2.0		1.0	2.0
Lost Time Adjust (s)					0.0			
Total Lost Time (s)					6.0			
Lead/Lag					Lag		Lead	
Lead-Lag Optimize?					Yes		Yes	
Vehicle Extension (s)					3.0		3.0	3.0
Recall Mode					C-Max		None	None
Walk Time (s)					7.0			
Flash Dont Walk (s)					11.0			
Pedestrian Calls (#/hr)					0			
Act Effect Green (s)			27.8	60.0	21.2	60.0		
Actuated g/C Ratio			0.46	1.00	0.35	1.00		
v/c Ratio			0.34	0.32	0.62	0.24		
Control Delay			7.8	0.2	18.8	0.4		
Queue Delay			1.5	0.0	0.0	0.0		
Total Delay			9.3	0.2	18.8	0.4		
LOS			A	A	B	A		
Approach Delay				2.0	12.8			
Approach LOS				A	B			
Queue Length 50th (ft)			38	0	122	0		
Queue Length 95th (ft)			m62	m0	175	0		
Internal Link Dist (ft)	194			151	430			
Turn Bay Length (ft)								
Base Capacity (vph)			833	3563	1263	1562		
Starvation Cap Reductn			374	0	0	0		
Spillback Cap Reductn			0	0	0	0		
Storage Cap Reductn			0	0	0	0		
Reduced v/c Ratio			0.61	0.33	0.62	0.25		

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 6.8 Intersection LOS: A
 Intersection Capacity Utilization 78.3% ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

10: T.F. Green Connector Road On Ramp

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Splits and Phases: 10: T.F. Green Connector Road On Ramp



Lanes, Volumes, Timings

7: T.F. Green Connector Road Off Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1
Lane Configurations	↶↶	↷		↶↶	↶↶		
Traffic Volume (vph)	460	284	0	932	751	0	
Future Volume (vph)	460	284	0	932	751	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00	
Fr't		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	3502	1454	0	3574	3574	0	
Flt Permitted	0.950						
Satd. Flow (perm)	3502	1454	0	3574	3574	0	
Right Turn on Red		No				Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	30			30	30		
Link Distance (ft)	257			106	231		
Travel Time (s)	5.8			2.4	5.3		
Peak Hour Factor	0.95	0.95	0.90	0.96	0.94	0.90	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	0%	
Parking (#/hr)		0					
Adj. Flow (vph)	484	299	0	971	799	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	484	299	0	971	799	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	24			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.14	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Number of Detectors	1	1		2	2		
Detector Template	Left	Right		Thru	Thru		
Leading Detector (ft)	20	20		100	100		
Trailing Detector (ft)	0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		
Detector 1 Size(ft)	20	20		6	6		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		
Detector 2 Position(ft)				94	94		
Detector 2 Size(ft)				6	6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	custom		NA	NA		
Protected Phases	3	13		12	2	1	
Permitted Phases							
Detector Phase	3	13		12	2		

Lanes, Volumes, Timings
7: T.F. Green Connector Road Off Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1
Switch Phase							
Minimum Initial (s)	6.0				10.0		6.0
Minimum Split (s)	12.0				16.0		11.0
Total Split (s)	14.0				27.0		19.0
Total Split (%)	23.3%				45.0%		32%
Maximum Green (s)	8.0				21.0		14.0
Yellow Time (s)	4.0				4.0		4.0
All-Red Time (s)	2.0				2.0		1.0
Lost Time Adjust (s)	0.0				0.0		
Total Lost Time (s)	6.0				6.0		
Lead/Lag					Lag		Lead
Lead-Lag Optimize?					Yes		Yes
Vehicle Extension (s)	3.0				3.0		3.0
Recall Mode	None				C-Max		None
Walk Time (s)	7.0				7.0		7.0
Flash Dont Walk (s)	11.0				11.0		11.0
Pedestrian Calls (#/hr)	0				0		0
Act Effct Green (s)	8.0	27.8		41.0	21.2		
Actuated g/C Ratio	0.13	0.46		0.68	0.35		
v/c Ratio	1.04	0.44		0.40	0.63		
Control Delay	81.7	13.5		4.7	5.8		
Queue Delay	0.0	0.0		0.0	0.0		
Total Delay	81.7	13.5		4.7	5.8		
LOS	F	B		A	A		
Approach Delay	55.6			4.7	5.8		
Approach LOS	E			A	A		
Queue Length 50th (ft)	~100	68		63	16		
Queue Length 95th (ft)	#182	124		89	28		
Internal Link Dist (ft)	177			26	151		
Turn Bay Length (ft)							
Base Capacity (vph)	466	678		2397	1264		
Starvation Cap Reductn	0	0		0	0		
Spillback Cap Reductn	0	0		0	0		
Storage Cap Reductn	0	0		0	0		
Reduced v/c Ratio	1.04	0.44		0.41	0.63		

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.04
Intersection Signal Delay:	20.7
Intersection LOS:	C
Intersection Capacity Utilization:	78.3%
ICU Level of Service:	D
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	

Lanes, Volumes, Timings

7: T.F. Green Connector Road Off Ramp

10/18/2021

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: T.F. Green Connector Road Off Ramp



Lanes, Volumes, Timings
 10: T.F. Green Connector Road On Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1	Ø3
Lane Configurations								
Traffic Volume (vph)	0	0	351	851	521	413		
Future Volume (vph)	0	0	351	851	521	413		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00		
Fr _t						0.850		
Fl _t Protected			0.950					
Satd. Flow (prot)	0	0	1787	3539	3471	1538		
Fl _t Permitted			0.950					
Satd. Flow (perm)	0	0	1787	3539	3471	1538		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)								
Link Speed (mph)	30			30	30			
Link Distance (ft)	274			231	510			
Travel Time (s)	6.2			5.3	11.6			
Peak Hour Factor	0.92	0.92	0.90	0.90	0.91	0.91		
Heavy Vehicles (%)	2%	2%	1%	2%	4%	5%		
Adj. Flow (vph)	0	0	390	946	573	454		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	390	946	573	454		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	0			12	12			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15			9		
Number of Detectors			1	2	2	1		
Detector Template			Left	Thru	Thru	Right		
Leading Detector (ft)			20	100	100	20		
Trailing Detector (ft)			0	0	0	0		
Detector 1 Position(ft)			0	0	0	0		
Detector 1 Size(ft)			20	6	6	20		
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)			0.0	0.0	0.0	0.0		
Detector 1 Queue (s)			0.0	0.0	0.0	0.0		
Detector 1 Delay (s)			0.0	0.0	0.0	0.0		
Detector 2 Position(ft)				94	94			
Detector 2 Size(ft)				6	6			
Detector 2 Type				Cl+Ex	Cl+Ex			
Detector 2 Channel								
Detector 2 Extend (s)				0.0	0.0			
Turn Type			Prot	NA	NA	custom		
Protected Phases			1 3	1 2 3	2		1	3
Permitted Phases								1 2 3
Detector Phase			1 3	1 2 3	2	1 2 3		
Switch Phase								

Lanes, Volumes, Timings
 10: T.F. Green Connector Road On Ramp

10/18/2021

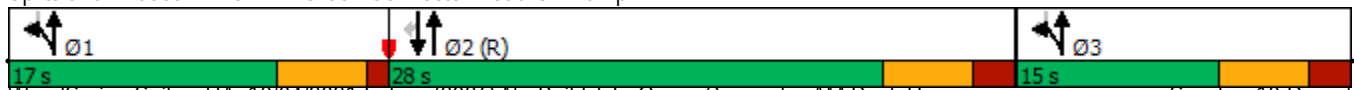


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1	Ø3
Minimum Initial (s)					10.0		6.0	6.0
Minimum Split (s)					16.0		11.0	12.0
Total Split (s)					28.0		17.0	15.0
Total Split (%)					46.7%		28%	25%
Maximum Green (s)					22.0		12.0	9.0
Yellow Time (s)					4.0		4.0	4.0
All-Red Time (s)					2.0		1.0	2.0
Lost Time Adjust (s)					0.0			
Total Lost Time (s)					6.0			
Lead/Lag					Lag		Lead	
Lead-Lag Optimize?					Yes		Yes	
Vehicle Extension (s)					3.0		3.0	3.0
Recall Mode					C-Max		None	None
Walk Time (s)					7.0			
Flash Dont Walk (s)					11.0			
Pedestrian Calls (#/hr)					0			
Act Effect Green (s)			26.9	60.0	22.1	60.0		
Actuated g/C Ratio			0.45	1.00	0.37	1.00		
v/c Ratio			0.49	0.27	0.45	0.30		
Control Delay			13.1	0.2	15.8	0.5		
Queue Delay			3.0	0.0	0.0	0.0		
Total Delay			16.1	0.2	15.8	0.5		
LOS			B	A	B	A		
Approach Delay				4.8	9.0			
Approach LOS				A	A			
Queue Length 50th (ft)			77	0	80	0		
Queue Length 95th (ft)			131	0	119	0		
Internal Link Dist (ft)	194			151	430			
Turn Bay Length (ft)								
Base Capacity (vph)			804	3485	1277	1514		
Starvation Cap Reductn			302	0	0	0		
Spillback Cap Reductn			0	0	0	0		
Storage Cap Reductn			0	0	0	0		
Reduced v/c Ratio			0.78	0.27	0.45	0.30		

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle:	40
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.49
Intersection Signal Delay:	6.6
Intersection LOS:	A
Intersection Capacity Utilization:	75.1%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 10: T.F. Green Connector Road On Ramp



Lanes, Volumes, Timings

7: T.F. Green Connector Road Off Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1
Lane Configurations	↖↗	↗		↑↑	↑↑		
Traffic Volume (vph)	275	183	0	931	542	0	
Future Volume (vph)	275	183	0	931	542	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00	
Fr _t		0.850					
Fl _t Protected	0.950						
Satd. Flow (prot)	3467	1583	0	3505	3471	0	
Fl _t Permitted	0.950						
Satd. Flow (perm)	3467	1583	0	3505	3471	0	
Right Turn on Red		No				Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	30			30	30		
Link Distance (ft)	257			106	231		
Travel Time (s)	5.8			2.4	5.3		
Peak Hour Factor	0.86	0.86	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	2%	0%	3%	4%	0%	
Adj. Flow (vph)	320	213	0	1034	602	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	320	213	0	1034	602	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	24			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Number of Detectors	1	1		2	2		
Detector Template	Left	Right		Thru	Thru		
Leading Detector (ft)	20	20		100	100		
Trailing Detector (ft)	0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		
Detector 1 Size(ft)	20	20		6	6		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		
Detector 2 Position(ft)				94	94		
Detector 2 Size(ft)				6	6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	custom		NA	NA		
Protected Phases	3	13		12	2	1	
Permitted Phases							
Detector Phase	3	13		12	2		
Switch Phase							

Lanes, Volumes, Timings
7: T.F. Green Connector Road Off Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1
Minimum Initial (s)	6.0				10.0		6.0
Minimum Split (s)	12.0				16.0		11.0
Total Split (s)	15.0				28.0		17.0
Total Split (%)	25.0%				46.7%		28%
Maximum Green (s)	9.0				22.0		12.0
Yellow Time (s)	4.0				4.0		4.0
All-Red Time (s)	2.0				2.0		1.0
Lost Time Adjust (s)	0.0				0.0		
Total Lost Time (s)	6.0				6.0		
Lead/Lag					Lag		Lead
Lead-Lag Optimize?					Yes		Yes
Vehicle Extension (s)	3.0				3.0		3.0
Recall Mode	None				C-Max		None
Walk Time (s)	7.0				7.0		7.0
Flash Dont Walk (s)	11.0				11.0		11.0
Pedestrian Calls (#/hr)	0				0		0
Act Effect Green (s)	8.8	26.8		40.2	22.2		
Actuated g/C Ratio	0.15	0.45		0.67	0.37		
v/c Ratio	0.63	0.30		0.44	0.47		
Control Delay	30.3	12.0		5.4	4.8		
Queue Delay	0.3	0.0		0.0	0.0		
Total Delay	30.6	12.0		5.4	4.8		
LOS	C	B		A	A		
Approach Delay	23.2			5.4	4.8		
Approach LOS	C			A	A		
Queue Length 50th (ft)	56	46		75	14		
Queue Length 95th (ft)	88	82		105	20		
Internal Link Dist (ft)	177			26	151		
Turn Bay Length (ft)							
Base Capacity (vph)	520	686		2350	1286		
Starvation Cap Reductn	0	0		0	51		
Spillback Cap Reductn	26	0		0	0		
Storage Cap Reductn	0	0		0	0		
Reduced v/c Ratio	0.65	0.31		0.44	0.49		

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle:	40
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay:	9.6
Intersection LOS:	A
Intersection Capacity Utilization:	75.1%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 7: T.F. Green Connector Road Off Ramp



Lanes, Volumes, Timings
 10: T.F. Green Connector Road On Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1	Ø3
Lane Configurations								
Traffic Volume (vph)	0	0	281	1162	760	372		
Future Volume (vph)	0	0	281	1162	760	372		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00		
Fr t						0.850		
Flt Protected			0.950					
Satd. Flow (prot)	0	0	1787	3610	3574	1583		
Flt Permitted			0.950					
Satd. Flow (perm)	0	0	1787	3610	3574	1583		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)								
Link Speed (mph)	30			30	30			
Link Distance (ft)	274			231	510			
Travel Time (s)	6.2			5.3	11.6			
Peak Hour Factor	0.92	0.92	0.97	0.97	0.94	0.94		
Heavy Vehicles (%)	2%	2%	1%	0%	1%	2%		
Adj. Flow (vph)	0	0	290	1198	809	396		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	290	1198	809	396		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	0			12	12			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15			9		
Number of Detectors			1	2	2	1		
Detector Template			Left	Thru	Thru	Right		
Leading Detector (ft)			20	100	100	20		
Trailing Detector (ft)			0	0	0	0		
Detector 1 Position(ft)			0	0	0	0		
Detector 1 Size(ft)			20	6	6	20		
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)			0.0	0.0	0.0	0.0		
Detector 1 Queue (s)			0.0	0.0	0.0	0.0		
Detector 1 Delay (s)			0.0	0.0	0.0	0.0		
Detector 2 Position(ft)				94	94			
Detector 2 Size(ft)				6	6			
Detector 2 Type				Cl+Ex	Cl+Ex			
Detector 2 Channel								
Detector 2 Extend (s)				0.0	0.0			
Turn Type			Prot	NA	NA	custom		
Protected Phases			1 3	1 2 3	2		1	3
Permitted Phases								1 2 3
Detector Phase			1 3	1 2 3	2			1 2 3
Switch Phase								

Lanes, Volumes, Timings
 10: T.F. Green Connector Road On Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1	Ø3
Minimum Initial (s)					10.0		6.0	6.0
Minimum Split (s)					16.0		11.0	12.0
Total Split (s)					27.0		19.0	14.0
Total Split (%)					45.0%		32%	23%
Maximum Green (s)					21.0		14.0	8.0
Yellow Time (s)					4.0		4.0	4.0
All-Red Time (s)					2.0		1.0	2.0
Lost Time Adjust (s)					0.0			
Total Lost Time (s)					6.0			
Lead/Lag					Lag		Lead	
Lead-Lag Optimize?					Yes		Yes	
Vehicle Extension (s)					3.0		3.0	3.0
Recall Mode					C-Max		None	None
Walk Time (s)					7.0			
Flash Dont Walk (s)					11.0			
Pedestrian Calls (#/hr)					0			
Act Effect Green (s)			28.0	60.0	21.0	60.0		
Actuated g/C Ratio			0.47	1.00	0.35	1.00		
v/c Ratio			0.35	0.33	0.65	0.25		
Control Delay			7.8	0.2	19.3	0.4		
Queue Delay			1.6	0.0	0.0	0.0		
Total Delay			9.5	0.2	19.3	0.4		
LOS			A	A	B	A		
Approach Delay				2.0	13.1			
Approach LOS				A	B			
Queue Length 50th (ft)			39	0	126	0		
Queue Length 95th (ft)			m64	m0	180	0		
Internal Link Dist (ft)	194			151	430			
Turn Bay Length (ft)								
Base Capacity (vph)			833	3610	1250	1583		
Starvation Cap Reductn			372	0	0	0		
Spillback Cap Reductn			0	0	0	0		
Storage Cap Reductn			0	0	0	0		
Reduced v/c Ratio			0.63	0.33	0.65	0.25		

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 7.0 Intersection LOS: A
 Intersection Capacity Utilization 80.0% ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

10: T.F. Green Connector Road On Ramp

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Splits and Phases: 10: T.F. Green Connector Road On Ramp



Lanes, Volumes, Timings

7: T.F. Green Connector Road Off Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1
Lane Configurations	↖↗	↖		↑↑	↑↑		
Traffic Volume (vph)	472	292	0	956	770	0	
Future Volume (vph)	472	292	0	956	770	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00	
Fr't		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	3502	1454	0	3574	3574	0	
Flt Permitted	0.950						
Satd. Flow (perm)	3502	1454	0	3574	3574	0	
Right Turn on Red		No				Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	30			30	30		
Link Distance (ft)	257			106	231		
Travel Time (s)	5.8			2.4	5.3		
Peak Hour Factor	0.95	0.95	0.90	0.96	0.94	0.90	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	0%	
Parking (#/hr)		0					
Adj. Flow (vph)	497	307	0	996	819	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	497	307	0	996	819	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	24			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.14	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Number of Detectors	1	1		2	2		
Detector Template	Left	Right		Thru	Thru		
Leading Detector (ft)	20	20		100	100		
Trailing Detector (ft)	0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		
Detector 1 Size(ft)	20	20		6	6		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		
Detector 2 Position(ft)				94	94		
Detector 2 Size(ft)				6	6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	custom		NA	NA		
Protected Phases	3	13		12	2	1	
Permitted Phases							
Detector Phase	3	13		12	2		

Lanes, Volumes, Timings
7: T.F. Green Connector Road Off Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1
Switch Phase							
Minimum Initial (s)	6.0				10.0		6.0
Minimum Split (s)	12.0				16.0		11.0
Total Split (s)	14.0				27.0		19.0
Total Split (%)	23.3%				45.0%		32%
Maximum Green (s)	8.0				21.0		14.0
Yellow Time (s)	4.0				4.0		4.0
All-Red Time (s)	2.0				2.0		1.0
Lost Time Adjust (s)	0.0				0.0		
Total Lost Time (s)	6.0				6.0		
Lead/Lag					Lag		Lead
Lead-Lag Optimize?					Yes		Yes
Vehicle Extension (s)	3.0				3.0		3.0
Recall Mode	None				C-Max		None
Walk Time (s)	7.0				7.0		7.0
Flash Dont Walk (s)	11.0				11.0		11.0
Pedestrian Calls (#/hr)	0				0		0
Act Effct Green (s)	8.0	27.8		41.0	21.2		
Actuated g/C Ratio	0.13	0.46		0.68	0.35		
v/c Ratio	1.07	0.46		0.41	0.65		
Control Delay	89.9	13.7		4.8	6.0		
Queue Delay	0.0	0.0		0.0	0.0		
Total Delay	89.9	13.7		4.8	6.0		
LOS	F	B		A	A		
Approach Delay	60.8			4.8	6.0		
Approach LOS	E			A	A		
Queue Length 50th (ft)	~105	70		65	16		
Queue Length 95th (ft)	#188	128		92	34		
Internal Link Dist (ft)	177			26	151		
Turn Bay Length (ft)							
Base Capacity (vph)	466	678		2395	1263		
Starvation Cap Reductn	0	0		0	0		
Spillback Cap Reductn	0	0		0	0		
Storage Cap Reductn	0	0		0	0		
Reduced v/c Ratio	1.07	0.45		0.42	0.65		

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.07
Intersection Signal Delay:	22.3
Intersection LOS:	C
Intersection Capacity Utilization:	80.0%
ICU Level of Service:	D
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	

Lanes, Volumes, Timings

7: T.F. Green Connector Road Off Ramp

10/18/2021

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: T.F. Green Connector Road Off Ramp



Lanes, Volumes, Timings
 10: T.F. Green Connector Road On Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1	Ø3
Lane Configurations			↶	↕	↕	↷		
Traffic Volume (vph)	0	0	357	864	533	413		
Future Volume (vph)	0	0	357	864	533	413		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00		
Fr t						0.850		
Flt Protected			0.950					
Satd. Flow (prot)	0	0	1787	3539	3471	1538		
Flt Permitted			0.950					
Satd. Flow (perm)	0	0	1787	3539	3471	1538		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)								
Link Speed (mph)	30			30	30			
Link Distance (ft)	274			231	510			
Travel Time (s)	6.2			5.3	11.6			
Peak Hour Factor	0.92	0.92	0.90	0.90	0.91	0.91		
Heavy Vehicles (%)	2%	2%	1%	2%	4%	5%		
Adj. Flow (vph)	0	0	397	960	586	454		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	397	960	586	454		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	0			12	12			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15			9		
Number of Detectors			1	2	2	1		
Detector Template			Left	Thru	Thru	Right		
Leading Detector (ft)			20	100	100	20		
Trailing Detector (ft)			0	0	0	0		
Detector 1 Position(ft)			0	0	0	0		
Detector 1 Size(ft)			20	6	6	20		
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)			0.0	0.0	0.0	0.0		
Detector 1 Queue (s)			0.0	0.0	0.0	0.0		
Detector 1 Delay (s)			0.0	0.0	0.0	0.0		
Detector 2 Position(ft)				94	94			
Detector 2 Size(ft)				6	6			
Detector 2 Type				Cl+Ex	Cl+Ex			
Detector 2 Channel								
Detector 2 Extend (s)				0.0	0.0			
Turn Type			Prot	NA	NA	custom		
Protected Phases			1 3	1 2 3	2		1	3
Permitted Phases								1 2 3
Detector Phase			1 3	1 2 3	2			1 2 3
Switch Phase								

Lanes, Volumes, Timings
 10: T.F. Green Connector Road On Ramp

10/18/2021

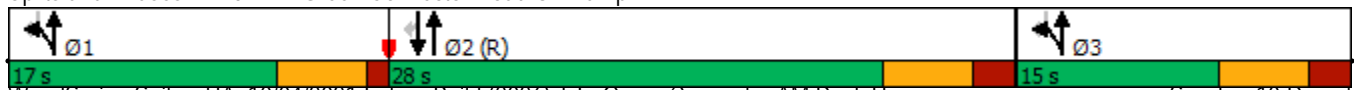


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1	Ø3
Minimum Initial (s)					10.0		6.0	6.0
Minimum Split (s)					16.0		11.0	12.0
Total Split (s)					28.0		17.0	15.0
Total Split (%)					46.7%		28%	25%
Maximum Green (s)					22.0		12.0	9.0
Yellow Time (s)					4.0		4.0	4.0
All-Red Time (s)					2.0		1.0	2.0
Lost Time Adjust (s)					0.0			
Total Lost Time (s)					6.0			
Lead/Lag					Lag		Lead	
Lead-Lag Optimize?					Yes		Yes	
Vehicle Extension (s)					3.0		3.0	3.0
Recall Mode					C-Max		None	None
Walk Time (s)					7.0			
Flash Dont Walk (s)					11.0			
Pedestrian Calls (#/hr)					0			
Act Effect Green (s)			27.0	60.0	22.0	60.0		
Actuated g/C Ratio			0.45	1.00	0.37	1.00		
v/c Ratio			0.49	0.27	0.46	0.30		
Control Delay			13.4	0.2	15.9	0.5		
Queue Delay			3.2	0.0	0.0	0.0		
Total Delay			16.6	0.2	15.9	0.5		
LOS			B	A	B	A		
Approach Delay				5.0	9.2			
Approach LOS				A	A			
Queue Length 50th (ft)			80	0	82	0		
Queue Length 95th (ft)			134	0	122	0		
Internal Link Dist (ft)	194			151	430			
Turn Bay Length (ft)								
Base Capacity (vph)			804	3539	1272	1538		
Starvation Cap Reductn			300	0	0	0		
Spillback Cap Reductn			0	0	0	0		
Storage Cap Reductn			0	0	0	0		
Reduced v/c Ratio			0.79	0.27	0.46	0.30		

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle:	40
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.49
Intersection Signal Delay:	6.8
Intersection LOS:	A
Intersection Capacity Utilization:	76.0%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 10: T.F. Green Connector Road On Ramp



Lanes, Volumes, Timings

7: T.F. Green Connector Road Off Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1
Lane Configurations	↶↶	↷		↶↶	↶↶		
Traffic Volume (vph)	275	188	0	950	542	0	
Future Volume (vph)	275	188	0	950	542	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00	
Fr _t	0.850						
Fl _t Protected	0.950						
Satd. Flow (prot)	3467	1583	0	3505	3471	0	
Fl _t Permitted	0.950						
Satd. Flow (perm)	3467	1583	0	3505	3471	0	
Right Turn on Red	No					Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	30			30	30		
Link Distance (ft)	257			106	231		
Travel Time (s)	5.8			2.4	5.3		
Peak Hour Factor	0.86	0.86	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	2%	0%	3%	4%	0%	
Adj. Flow (vph)	320	219	0	1056	602	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	320	219	0	1056	602	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	24			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Number of Detectors	1	1		2	2		
Detector Template	Left	Right		Thru	Thru		
Leading Detector (ft)	20	20		100	100		
Trailing Detector (ft)	0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		
Detector 1 Size(ft)	20	20		6	6		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		
Detector 2 Position(ft)				94	94		
Detector 2 Size(ft)				6	6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	custom		NA	NA		
Protected Phases	3	13		12	2		1
Permitted Phases							
Detector Phase	3	13		12	2		
Switch Phase							

Lanes, Volumes, Timings
7: T.F. Green Connector Road Off Ramp

10/18/2021

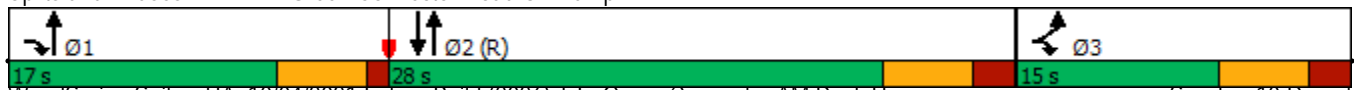


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1
Minimum Initial (s)	6.0				10.0		6.0
Minimum Split (s)	12.0				16.0		11.0
Total Split (s)	15.0				28.0		17.0
Total Split (%)	25.0%				46.7%		28%
Maximum Green (s)	9.0				22.0		12.0
Yellow Time (s)	4.0				4.0		4.0
All-Red Time (s)	2.0				2.0		1.0
Lost Time Adjust (s)	0.0				0.0		
Total Lost Time (s)	6.0				6.0		
Lead/Lag					Lag		Lead
Lead-Lag Optimize?					Yes		Yes
Vehicle Extension (s)	3.0				3.0		3.0
Recall Mode	None				C-Max		None
Walk Time (s)	7.0				7.0		7.0
Flash Dont Walk (s)	11.0				11.0		11.0
Pedestrian Calls (#/hr)	0				0		0
Act Effect Green (s)	8.8	26.8		40.2	22.2		
Actuated g/C Ratio	0.15	0.45		0.67	0.37		
v/c Ratio	0.63	0.31		0.45	0.47		
Control Delay	30.3	12.1		5.4	4.6		
Queue Delay	0.4	0.0		0.0	0.0		
Total Delay	30.7	12.1		5.4	4.6		
LOS	C	B		A	A		
Approach Delay	23.1			5.4	4.6		
Approach LOS	C			A	A		
Queue Length 50th (ft)	56	48		77	13		
Queue Length 95th (ft)	88	85		108	18		
Internal Link Dist (ft)	177			26	151		
Turn Bay Length (ft)							
Base Capacity (vph)	520	686		2350	1286		
Starvation Cap Reductn	0	0		0	41		
Spillback Cap Reductn	30	0		0	0		
Storage Cap Reductn	0	0		0	0		
Reduced v/c Ratio	0.65	0.32		0.45	0.48		

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	0 (0%), Referenced to phase 2:NBSB, Start of Green
Natural Cycle:	40
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay:	9.5
Intersection LOS:	A
Intersection Capacity Utilization	76.0%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 7: T.F. Green Connector Road Off Ramp



Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗			↑↑	↑↑	
Traffic Vol, veh/h	19	14	20	931	805	17
Future Vol, veh/h	19	14	20	931	805	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	90	90	90	90
Heavy Vehicles, %	0	0	0	3	4	0
Mvmt Flow	21	15	22	1034	894	19

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1465	457	913	0	-	0
Stage 1	904	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	121	556	755	-	-	-
Stage 1	360	-	-	-	-	-
Stage 2	540	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	113	556	755	-	-	-
Mov Cap-2 Maneuver	113	-	-	-	-	-
Stage 1	335	-	-	-	-	-
Stage 2	540	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	31.6	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	755	-	171	-	-
HCM Lane V/C Ratio	0.029	-	0.21	-	-
HCM Control Delay (s)	9.9	-	31.6	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Lanes, Volumes, Timings
 10: T.F. Green Connector Road On Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1	Ø3
Lane Configurations			↶	↷	↷	↷		
Traffic Volume (vph)	0	0	285	1173	778	372		
Future Volume (vph)	0	0	285	1173	778	372		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00		
Fr _t						0.850		
Fl _t Protected			0.950					
Satd. Flow (prot)	0	0	1787	3610	3574	1583		
Fl _t Permitted			0.950					
Satd. Flow (perm)	0	0	1787	3610	3574	1583		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)								
Link Speed (mph)	30			30	30			
Link Distance (ft)	274			231	510			
Travel Time (s)	6.2			5.3	11.6			
Peak Hour Factor	0.92	0.92	0.97	0.97	0.94	0.94		
Heavy Vehicles (%)	2%	2%	1%	0%	1%	2%		
Adj. Flow (vph)	0	0	294	1209	828	396		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	294	1209	828	396		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(ft)	0			12	12			
Link Offset(ft)	0			0	0			
Crosswalk Width(ft)	16			16	16			
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15			9		
Number of Detectors			1	2	2	1		
Detector Template			Left	Thru	Thru	Right		
Leading Detector (ft)			20	100	100	20		
Trailing Detector (ft)			0	0	0	0		
Detector 1 Position(ft)			0	0	0	0		
Detector 1 Size(ft)			20	6	6	20		
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)			0.0	0.0	0.0	0.0		
Detector 1 Queue (s)			0.0	0.0	0.0	0.0		
Detector 1 Delay (s)			0.0	0.0	0.0	0.0		
Detector 2 Position(ft)				94	94			
Detector 2 Size(ft)				6	6			
Detector 2 Type				Cl+Ex	Cl+Ex			
Detector 2 Channel								
Detector 2 Extend (s)				0.0	0.0			
Turn Type			Prot	NA	NA	custom		
Protected Phases			1 3	1 2 3	2		1	3
Permitted Phases								1 2 3
Detector Phase			1 3	1 2 3	2	1 2 3		
Switch Phase								

Lanes, Volumes, Timings
 10: T.F. Green Connector Road On Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1	Ø3
Minimum Initial (s)					10.0		6.0	6.0
Minimum Split (s)					16.0		11.0	12.0
Total Split (s)					27.0		19.0	14.0
Total Split (%)					45.0%		32%	23%
Maximum Green (s)					21.0		14.0	8.0
Yellow Time (s)					4.0		4.0	4.0
All-Red Time (s)					2.0		1.0	2.0
Lost Time Adjust (s)					0.0			
Total Lost Time (s)					6.0			
Lead/Lag					Lag		Lead	
Lead-Lag Optimize?					Yes		Yes	
Vehicle Extension (s)					3.0		3.0	3.0
Recall Mode					C-Max		None	None
Walk Time (s)					7.0			
Flash Dont Walk (s)					11.0			
Pedestrian Calls (#/hr)					0			
Act Effect Green (s)			28.0	60.0	21.0	60.0		
Actuated g/C Ratio			0.47	1.00	0.35	1.00		
v/c Ratio			0.35	0.33	0.66	0.25		
Control Delay			8.0	0.2	19.6	0.4		
Queue Delay			1.7	0.0	0.0	0.0		
Total Delay			9.6	0.2	19.6	0.4		
LOS			A	A	B	A		
Approach Delay				2.1	13.4			
Approach LOS				A	B			
Queue Length 50th (ft)			40	0	130	0		
Queue Length 95th (ft)			m66	m0	185	0		
Internal Link Dist (ft)	194			151	430			
Turn Bay Length (ft)								
Base Capacity (vph)			833	3610	1250	1583		
Starvation Cap Reductn			370	0	0	0		
Spillback Cap Reductn			0	0	0	0		
Storage Cap Reductn			0	0	0	0		
Reduced v/c Ratio			0.63	0.33	0.66	0.25		

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 7.1 Intersection LOS: A
 Intersection Capacity Utilization 80.7% ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

10: T.F. Green Connector Road On Ramp

10/18/2021

Splits and Phases: 10: T.F. Green Connector Road On Ramp



Lanes, Volumes, Timings
7: T.F. Green Connector Road Off Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1
Lane Configurations	↖↗	↖		↑↑	↑↑		
Traffic Volume (vph)	472	296	0	971	770	0	
Future Volume (vph)	472	296	0	971	770	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00	
Fr't		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	3502	1454	0	3574	3574	0	
Flt Permitted	0.950						
Satd. Flow (perm)	3502	1454	0	3574	3574	0	
Right Turn on Red		No				Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	30			30	30		
Link Distance (ft)	257			106	231		
Travel Time (s)	5.8			2.4	5.3		
Peak Hour Factor	0.95	0.95	0.90	0.96	0.94	0.90	
Heavy Vehicles (%)	0%	0%	0%	1%	1%	0%	
Parking (#/hr)		0					
Adj. Flow (vph)	497	312	0	1011	819	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	497	312	0	1011	819	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	24			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.14	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9	15			9	
Number of Detectors	1	1		2	2		
Detector Template	Left	Right		Thru	Thru		
Leading Detector (ft)	20	20		100	100		
Trailing Detector (ft)	0	0		0	0		
Detector 1 Position(ft)	0	0		0	0		
Detector 1 Size(ft)	20	20		6	6		
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		
Detector 2 Position(ft)				94	94		
Detector 2 Size(ft)				6	6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	custom		NA	NA		
Protected Phases	3	13		12	2	1	
Permitted Phases							
Detector Phase	3	13		12	2		

Lanes, Volumes, Timings
 7: T.F. Green Connector Road Off Ramp

10/18/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø1
Switch Phase							
Minimum Initial (s)	6.0				10.0		6.0
Minimum Split (s)	12.0				16.0		11.0
Total Split (s)	14.0				27.0		19.0
Total Split (%)	23.3%				45.0%		32%
Maximum Green (s)	8.0				21.0		14.0
Yellow Time (s)	4.0				4.0		4.0
All-Red Time (s)	2.0				2.0		1.0
Lost Time Adjust (s)	0.0				0.0		
Total Lost Time (s)	6.0				6.0		
Lead/Lag					Lag		Lead
Lead-Lag Optimize?					Yes		Yes
Vehicle Extension (s)	3.0				3.0		3.0
Recall Mode	None				C-Max		None
Walk Time (s)	7.0				7.0		7.0
Flash Dont Walk (s)	11.0				11.0		11.0
Pedestrian Calls (#/hr)	0				0		0
Act Effct Green (s)	8.0	27.8		41.0	21.2		
Actuated g/C Ratio	0.13	0.46		0.68	0.35		
v/c Ratio	1.07	0.46		0.41	0.65		
Control Delay	89.9	13.8		4.8	6.0		
Queue Delay	0.0	0.0		0.0	0.0		
Total Delay	89.9	13.8		4.8	6.0		
LOS	F	B		A	A		
Approach Delay	60.5			4.8	6.0		
Approach LOS	E			A	A		
Queue Length 50th (ft)	~105	72		66	15		
Queue Length 95th (ft)	#188	131		94	36		
Internal Link Dist (ft)	177			26	151		
Turn Bay Length (ft)							
Base Capacity (vph)	466	678		2394	1262		
Starvation Cap Reductn	0	0		0	6		
Spillback Cap Reductn	0	0		0	0		
Storage Cap Reductn	0	0		0	0		
Reduced v/c Ratio	1.07	0.46		0.42	0.65		

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.07
 Intersection Signal Delay: 22.2 Intersection LOS: C
 Intersection Capacity Utilization 80.7% ICU Level of Service D
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

Lanes, Volumes, Timings

7: T.F. Green Connector Road Off Ramp

10/18/2021

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: T.F. Green Connector Road Off Ramp



HCM 2010 TWSC
2: WoodSpring Suites Driveway

10/18/2021

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	15	16	21	956	1085	22
Future Vol, veh/h	15	16	21	956	1085	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	96	96	94	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	17	22	996	1154	24

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1708	589	1178	0	-	0
Stage 1	1166	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	82	452	589	-	-	-
Stage 1	259	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	75	452	589	-	-	-
Mov Cap-2 Maneuver	75	-	-	-	-	-
Stage 1	237	-	-	-	-	-
Stage 2	547	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	41.4	0.7	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	589	-	132	-	-
HCM Lane V/C Ratio	0.037	-	0.255	-	-
HCM Control Delay (s)	11.3	0.5	41.4	-	-
HCM Lane LOS	B	A	E	-	-
HCM 95th %tile Q(veh)	0.1	-	1	-	-

Appendix F

Speed Study Results

Pare Corporation



8 Blackstone Valley Place
 Lincoln, RI, 02865
 401-334-4100
 www.parecorp.com

Roadway: Post Road
 Location: 2245 Post Road
 Weather: Sunny, 72°F
 Taken By: HA

File Name : 2245 Post Road Speed Study
 Site Code : 21175.00
 Start Date : 9/21/2021
 Page No : 1

#	Northbound	Southbound
1	39	37
2	45	35
3	37	39
4	35	38
5	38	45
6	52	44
7	37	36
8	39	38
9	36	34
10	42	35
11	37	45
12	46	44
13	36	44
14	41	36
15	44	38
16	44	39
17	37	37
18	39	42
19	38	38
20	40	41
21	42	39
22	39	39
23	45	38
24	38	38
25	51	38
26	46	40
27	48	41
28	44	42
29	47	44
30	46	43
31	42	41
32	38	38
33	39	36
34	39	37
35	45	35
36	44	38
37	44	37
38	42	39
39	38	39
40	39	39
41		

Class	Vehicle Count	85 Percentile	10 MPH Pace Speed	Number in Pace	Percent in Pace	Number of Vehicles Over 35 MPH	Percent of Vehicles Over 35 MPH	Average Speed	True Median (50th Percentile)
Northbound	40	46	37 - 46	33	82	39	98	41	40
Southbound	40	43	35 - 44	37	92	36	90	39	38
Summary	80	44	36 - 45	68	85	75	94	40	39